

Background Document for First Third Wastes to
Support 40 CFR (Code of Federal Regulations)
Part 268 Land Disposal Restrictions. Proposed
Rule. First Third Waste Volumes, Characteristics, and
Required and Available Treatment Capacity. Part 1

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Solid Waste

Background Document For First Third Wastes To Support 40 CFR Part 268 Land Disposal Restrictions

Proposed Rule

First Third Waste Volumes, Characteristics, and Required and Available Treatment Capacity - *Part I*

BACKGROUND DOCUMENT FOR FIRST THIRD WASTES TO
SUPPORT 40 CFR PART 268 LAND DISPOSAL RESTRICTIONS

PROPOSED RULE

FIRST THIRD WASTE VOLUMES, CHARACTERISTICS, AND
REQUIRED AND AVAILABLE TREATMENT CAPACITY

U.S. Environmental Protection Agency
Office of Solid Waste
401 M Street, S.W.
Washington, D.C. 20460

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PART A

EXECUTIVE SUMMARY

This background document discusses the quantities of First Third wastes affected by today's proposed rule and assesses the required and available alternative treatment and recycling capacity for these wastes.

The data used to quantify and characterize the First Third wastes were obtained from the Regulatory Impact Analysis (RIA) Mail Survey performed in 1981 (Ref. 1). Using these data, it was estimated that a maximum total volume of 3,435.6 million gallons per year of First Third wastes are land disposed. This estimate represents a maximum volume because some double counting of waste streams that were reported as being managed by more than one land disposal practice could not be avoided.

Not all First Third wastes are affected by today's proposal, however. Because of time constraints, EPA is only proposing to regulate some of the K coded First Third wastes. The remaining First Third wastes will be covered under future regulations. Consequently, the Agency estimates that 530.6 million gallons per year of First Third wastes will be affected by today's proposed rulemaking and will require alternative treatment/recycling capacity.

Small Quantity Generator (SQG) wastes and wastes from response activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and corrective actions under the Resource Conservation and Recovery Act (RCRA) are also affected by today's rule

and will require alternative treatment/recycling capacity. At this time, however, the data needed to evaluate capacity requirements for these wastes are not available. The Agency does not believe, however, that significantly large quantities of wastes result from these sources.

Today, EPA is not requiring the use of Best Demonstrated Available Technology (BDAT). Instead, the Agency is establishing treatment standards expressed as concentration limits in the waste, and is identifying the BDAT technology used to determine these limits. These technologies can be categorized as follows: incineration, wastewater treatment, chemical treatment, wastewater treatment and incineration, and high temperature metals recovery. In order to determine the required treatment/recycling capacity, the Agency performed a treatability analysis of the First Third waste streams from the RIA Mail Survey that are affected by today's proposal. Based on this analysis, EPA determined capacity requirements for each technology group as shown below:

<u>Technology</u>	<u>Required capacity (million gallons per year)</u>
Incineration	168.7
Wastewater treatment for K062	230.3
Wastewater treatment and incineration for K103 and K104	29.1
Chemical treatment for K071	8.0
High temperature metals recovery for K061	<u>94.5</u>
	530.6

For previous rulemakings (Refs. 2 and 3), the Agency determined that commercial rotary kiln or fluidized bed incineration capacity is insufficient for the volume potentially affected by today's proposed rule. Consequently, it is proposing to grant a 2-year capacity variance to those wastes requiring rotary kiln or fluidized bed incineration (K016, K018, K019, K020, K024, K030, K037, K048, K049, K050, K051, and K052).

On the other hand, the Agency previously demonstrated that capacity is available in liquid injection incinerators and industrial kilns/furnaces (Ref. 3 and Appendix E, Attachment 2). As a result, EPA is not proposing to grant a variance to K015 wastes requiring incineration.

The Agency believes that adequate onsite wastewater treatment capacity for K062 currently exists or will exist prior to promulgation of the final rule. In addition, some available commercial capacity has been identified (Refs. 2, 3, and 4). Therefore, EPA is not proposing to grant a variance to K062 wastes requiring wastewater treatment capacity.

Moreover, while the Agency determined that adequate incineration capacity is available for K103 and K104 wastes, there is insufficient wastewater treatment capacity for these wastes. Therefore, EPA is proposing to grant a 2-year national capacity variance to K103 and K104 wastes.

Similarly, EPA determined that adequate commercial high temperature metals recovery capacity does not exist for K061 wastes, and is therefore proposing to grant a 2-year national capacity variance to K061 wastes.

The Agency also found that there is inadequate capacity for K071 wastes requiring chemical treatment and is proposing to grant a 2-year variance for K071 wastes.

A detailed analysis of the available treatment capacity for the wastes affected by today's rule is contained in Section E.

PART B

SUMMARY OF PREVIOUS LAND DISPOSAL RESTRICTIONS

Today's proposed rule initiates the third segment of EPA's Land Disposal Restrictions Program - the restrictions on the "First Third" of the scheduled wastes. This part summarizes the previous two segments of the Agency's program.

1. SOLVENTS AND DIOXINS

The Land Disposal Restrictions Program began with the promulgation of the Solvents and Dioxins final rule on November 7, 1986 (51 FR 40572). The final rule encompassed F001-F005 spent solvent wastes and F020-F023 and F026-F028 dioxin wastes, and established treatment standards expressed as concentrations in the waste extract. The rule prohibits land disposal of the specific solvent and dioxin wastes unless the wastes contain less than the specified concentration of hazardous constituents.

For this final rule, EPA performed an analysis of required and available treatment capacity. The Agency used the 1981 RIA Mail Survey to identify the volume of land disposed solvent wastes subject to the restrictions. Although EPA did not establish required technologies for these wastes, the Agency used the physical and chemical characteristics that were reported for each waste stream to identify the technology or technologies that EPA assumed would be used to meet the treatment standards. The waste volumes were distributed among the applicable technologies as shown below:

<u>Waste stream</u>	<u>Applicable treatment and recycling technologies</u>
Solvent-water mixtures	Wastewater treatment in tanks
Organic liquids	Distillation Fuel substitution Incineration
Organic sludges	Fuel substitution Incineration
Inorganic sludges or solids	Incineration

After identifying the required treatment capacity for solvent wastes, the Agency analyzed the available commercial capacity for these technologies. A comparison of required and available commercial capacity (in million gallons per year) is presented below:

<u>Treatment or recovery technology</u>	<u>Waste quantity requiring alternative capacity</u>	<u>Available commercial capacity</u>
Distillation	4.2	225.0
Fuel substitution	18.8	>24.0
Incineration	65.3	22.6
Wastewater treatment	2,481.0	2,103.0

Analysis of available capacity (supply) and required capacity (demand) showed shortfalls in available capacity for wastewater treatment and incineration. Consequently, the Agency granted a 2-year national capacity variance to CERCLA and RCRA corrective action wastes, small quantity generator (SQG) wastes, and solvent-water mixtures, solvent-containing sludges, and solvent-contaminated soil containing less than 1 percent total F001-F005 solvent constituents (40 CFR 268.30 and Ref. 2).

EPA determined that the volume of dioxin-containing waste currently generated and subject to the final rule amounted to 3 million pounds annually (51 FR 40617). The Agency also found that incineration capacity for these dioxin wastes was inadequate and granted a 2-year national capacity variance for them (51 FR 40617).

2. CALIFORNIA LIST

Unlike the Solvents and Dioxins rule, the California List rule is not waste code specific. The California List includes all liquid hazardous waste with a pH of ≤ 2.0 (i.e., acidic corrosive waste); all liquid hazardous waste containing free cyanide, metals, or PCBs in concentrations greater than or equal to those specified; and all hazardous wastes (liquid or solid) containing halogenated organic compounds (HOCs) in amounts greater than or equal to the statutory levels.

The California List final rule was promulgated on July 8, 1987 (52 FR 25760). The Agency established BDAT as incineration in accordance with 40 CFR 264 Subpart O or Part 265 Subpart O for HOC wastes (except HOC wastewaters), and thermal treatment in accordance with 40 CFR 761.60 or 761.70 for PCB wastes. EPA codified the statutory prohibition level for acidic corrosive wastes (those with a pH ≤ 2.0), but did not promulgate a treatment standard for these wastes. The final rule did not establish prohibition levels for metal or cyanide wastes; a final determination for these wastes will be made in a separate rulemaking.

The Agency used data from the 1981 RIA Mail Survey to determine the maximum potential volume of land disposed waste subject to the California List restrictions. In order to ascertain the required alternative treatment capacity for these waste volumes, EPA identified those technologies that it believed would generally be used to treat California List wastes. The Agency then determined the available alternative treatment capacity for these wastes.

A comparison of required and available treatment capacity (in million gallons per year) for the California List wastes for which BDAT has been established is shown below:

<u>Treatment technology</u>	<u>Required capacity</u>	<u>Available commercial capacity</u>
Incineration for HOCs	316.3	} 6.4
Thermal treatment for PCBs	0.4	

The above comparison shows that incineration capacity for HOC wastes is inadequate. Consequently, the Agency granted a 2-year national capacity variance to HOC wastes requiring incineration. On the other hand, the Agency determined that adequate capacity for PCB wastes does exist and thus did not grant a variance to these wastes.

EPA believes that acidic corrosive, cyanide, and metal wastes can be treated to below the California List statutory levels by tank treatment methods including neutralization, cyanide oxidation, chromium reduction, and chemical precipitation. Furthermore, since EPA did not establish a treatment standard for these wastes, they may still be land disposed after being rendered nonliquid. Consequently, the Agency believes that adequate capacity for these wastes does exist and did not grant a capacity variance for them (Ref. 3).

PART C

VOLUME OF FIRST THIRD WASTES AFFECTED BY THE LAND DISPOSAL RESTRICTIONS

This part of the background document presents an overview of current land disposal practices for First Third wastes. Volumes are presented for the quantity of wastes that could potentially be affected by today's rule. The data and information presented here are used in Part D to assess the general alternative treatment capacity requirements for First Third wastes addressed by this proposed rulemaking.

1. SUMMARY OF DATA GATHERING METHODOLOGY

Data on the volume of First Third wastes currently being land disposed were obtained from an industry survey. The survey and resulting data base are known as the National Survey of Hazardous Waste Generators and Treatment, Storage, and Disposal Facilities Regulated under RCRA in 1981 (Ref. 1). It is more commonly referred to as the 1981 RIA Mail Survey, the term that is used throughout the remainder of this document.

During the survey, questionnaires were mailed to a statistically selected population of facilities regulated under RCRA in 1981. Questionnaire recipients were generators of hazardous waste and/or facilities that treated, stored, or disposed of more than 1,000 kilograms of hazardous waste per month. The latter category of facilities, called TSD facilities, consists of those facilities that conducted either commercial or private treatment, storage, or disposal operations. The questionnaire received by the TSD facilities requested specific

information on the volumes and types of wastes managed. Wastes were identified by the TSD facilities using the conventional RCRA hazardous waste codes established in 40 CFR Part 261.

Approximately 11,000 questionnaires were mailed, with a 94 percent response rate. All responses were screened prior to inclusion in the data base to ensure that reported wastes were hazardous under the RCRA definition and that they were treated, stored, or disposed of in processes regulated under RCRA. The data obtained on RCRA hazardous wastes were tabulated and assigned statistical weights. They were then used to project national estimates of waste volumes (Ref. 1).

Valuable data on types of wastes generated as well as on waste management and land disposal practices were obtained from this survey. The resulting RIA Mail Survey data base has undergone extensive evaluation (Refs. 1, 5, 6, and 7). This data base provides the basis for the information and data on waste volumes and characteristics and current land disposal practices presented in this section.

Several comments on the Solvents and Dioxins and the California List rules expressed concern over the Agency's continued reliance upon the 1981 RIA Mail Survey. The commenters felt that the data base is out of date and no longer reflects the current situation, noting that there have been significant changes since 1981 in the way hazardous waste is managed. Although EPA agrees that other data sources may contain more current data, the Agency maintains that the RIA Mail Survey is the only

comprehensive data base currently available that allows EPA to estimate nationwide quantities of land disposed waste volumes by combination of waste code, physical/chemical description, and management practice for the determination of required alternative treatment capacity.

In an attempt to improve the data used by the Agency to determine waste volumes and alternative capacity, EPA is conducting a National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling (TSDR) Facilities. Data on the current operating status, commercial status, and waste management practices at RCRA TSDR facilities should be available prior to promulgation of the final rule. EPA will evaluate this new data base as soon as it becomes available, and will then issue a Notice of Data Availability and a request for public comments in the Federal Register.

2. LAND DISPOSAL PRACTICES

Land disposal is defined under RCRA as any placement of hazardous waste into or on the land. Therefore, storage and treatment of hazardous waste in or on the land is also considered land disposal. Land disposal methods can be divided into numerous categories. Four of these methods are addressed in detail in this document: disposal in landfills; storage in waste piles; disposal by land application; and treatment, storage, and disposal in surface impoundments. Utilization of salt dome formations, salt bed formations, and underground mines and caves are additional methods of land disposal that are affected by this rulemaking. Currently, there is insufficient information to document the volumes of First Third wastes disposed of by these last three methods; therefore, they are not addressed in the analysis of volumes and required alternative treatment capacity. Underground (deepwell) injection, another form of land disposal, will be covered under a separate rulemaking; thus, the volume of deepwell injected wastes has not been included in this document.

The volumes of First Third wastes from large quantity handlers (more than 1,000 kilograms per month in 1981) managed by each of the land disposal methods affected by this proposed rulemaking were estimated using the 1981 RIA Mail Survey data.

First Third wastes generated by SQGs and from CERCLA response actions and RCRA corrective actions have not been included in these total

quantity estimates because data are not available. EPA does not believe that significantly large quantities result from these sources.

Volumes are presented for First Third wastes currently managed by the following land disposal practices: landfill, land application, waste pile, and surface impoundment. A number of waste streams in the RIA Mail Survey were reported as being handled by more than one land disposal method. In these cases, the volume is included in the total for both management practices or "double counted." Although double counting may slightly inflate the volumes associated with each management practice, the Agency believes that, given the limitations of the data base, double counting provides a conservative estimate of the volume of wastes land disposed.

Surface impoundments are further divided into four management techniques. These impoundments present a special case, which is discussed below.

Four scenarios were considered during evaluation of the volumes of First Third wastes that are managed in surface impoundments:

1. Storage in surface impoundments;
2. Treatment in surface impoundments;
3. Concurrent storage and treatment in surface impoundments; and
4. Disposal in surface impoundments.

The volume of First Third wastes disposed of in surface impoundments includes waste volumes that were also treated and/or stored in

impoundments prior to final disposal. Disposal in surface impoundments is restricted by this proposed rulemaking; consequently, all wastes managed in this manner will require alternative treatment capacity.

Estimates of the volume of First Third wastes that have been stored (but not treated or disposed of) in surface impoundments are presented. Storage implies a temporary placement of wastes in the surface impoundment, whereas disposal implies a permanent confinement. EPA has assumed that all of the First Third wastes stored in surface impoundments are eventually treated or recycled or that they are routed to permanent disposal in other existing units. For this analysis, to avoid double counting, i.e., once when they are stored and again when they are finally disposed of, the volumes of wastes reported as being stored in surface impoundments were not included in the estimates of volumes requiring alternative treatment capacity. Nevertheless, these wastes will be affected by the restrictions and will require alternative storage capacity.

In addition to the wastes stored in surface impoundments, estimates of the volume of First Third wastes treated, or treated and stored concurrently, in surface impoundments are presented. Under RCRA, surface impoundments may continue to receive hazardous wastes if the surface impoundments are used for treatment; however, these surface impoundments must be in compliance with certain minimum design and operating criteria (see RCRA Section 3005(j)(11)(A) and (B)). Based on these requirements,

any surface impoundment that continues to receive restricted First Third wastes must be equipped with double liners, leachate collection systems, and ground-water monitoring systems or have been granted an exemption in accordance with Section 3005(j)(2) or (4).

These standards also include a requirement that all hazardous residuals must be dredged from the treatment impoundments annually. The overall quantity of hazardous residuals and dredged material that will subsequently be affected by the restrictions are difficult to estimate. As facilities begin to comply with all of these standards, the total quantity of waste that originally was assumed to require alternative treatment capacity will decrease, while the quantity of dredged material requiring alternative treatment capacity may increase. The physical and chemical composition of this dredged material will determine the appropriate treatment technology. The final composition of this material is difficult to estimate accurately, with the individual constituents being affected by different rates and efficiencies of the specific treatment processes used in the impoundment.

Based on the limited information available, EPA has determined that for today's proposed rule, an estimate of the quantity of dredged materials will not be included in the estimate of the total quantity of First Third wastes requiring alternative treatment capacity.

Some of the wastes being treated in these impoundments may not require alternative treatment capacity provided that the facilities meet the minimum technical requirements. The 1981 OSW RIA Mail Survey data

base that was used to calculate the quantities of First Third wastes lacks the information needed to extrapolate the quantities of wastes being treated in impoundments that currently meet these requirements. Therefore, the Agency has assumed that all of these wastes currently being treated in impoundments will require alternative treatment capacity. Those wastes that are both treated and stored in surface impoundments will also require alternative storage capacity.

3. IDENTIFICATION OF FIRST THIRD WASTES

The Hazardous and Solid Waste Amendments (HSWA) of 1984 required that the Agency develop regulations that minimize or eliminate the continued land disposal of hazardous wastes. The legislation established a series of deadlines beyond which further land disposal of a particular group of hazardous wastes is prohibited unless the wastes meet treatment standards established by the Agency or unless a petition successfully demonstrates that there will be no migration of hazardous constituents from the disposal unit(s) in which the wastes are placed for as long as the waste remains hazardous.

On May 28, 1986 (51 FR 19300), EPA published a schedule setting forth the order in which the listed hazardous wastes will be evaluated. The schedule consists of the Solvents and Dioxin wastes, the California List wastes*, and the remaining listed wastes divided into three groups. The three groups of listed wastes are commonly referred to as the First, Second, and Third "Thirds," respectively. To devise the Thirds lists, EPA developed a ranking of the listed hazardous wastes (except those covered by the Solvents and Dioxins rule) based upon a combination of their intrinsic hazard, i.e., toxicity and volume disposed. High volume, highly toxic wastes were scheduled first, and low volume, less toxic

* The California List is not waste code specific, regulating instead all hazardous wastes with specific physical forms containing specific constituents or characteristics exceeding the statutory levels.

wastes were scheduled last. Consequently, the "First Third" wastes represent the "most hazardous" of the listed RCRA wastes. Appendix B presents the waste codes and waste descriptions for the First Thirds wastes.

4. DETERMINATION OF FIRST THIRD WASTE VOLUMES AFFECTED BY THE PROPOSED RULE

This section details the methodology used to determine the volume of wastes affected by today's proposed rule restricting land disposal of First Third wastes. In order to assess the requirements for alternative treatment capacity that will result from the restrictions, it was necessary to identify the volume of First Third wastes by land disposal method, waste code, and physical/chemical form. With this information, it is then possible to identify which treatment technologies are applicable to the waste volumes and to determine required alternative treatment capacity.

Waste volumes managed by the land disposal practices affected by today's proposed rule were estimated using data collected from the 1981 RIA Mail Survey (Ref. 1). Computer printouts showing the volume of waste land disposed for each First Third waste code affected by today's proposed rule are contained in Appendix A. Those waste codes for which no volumes were reported as being land disposed in the 1981 RIA Mail Survey are identified in Appendix B by a double asterisk (**). There are several possible explanations for this. First, it is possible that none of these wastes are currently being land disposed (or were being land disposed in 1981). Second, because respondents to the RIA Mail Survey were only asked to list their ten largest waste streams, it is possible that relatively small quantities of these wastes that were being land

disposed were not reported. Finally, because the data base is a survey and not a census, it is possible that facilities land disposing these wastes were not contacted.

During EPA's evaluation of potential First Third wastes volumes, the Agency discovered that one K048 waste stream with a reported volume of 3,470 million gallons had been declared a nonhazardous waste;* thus, the Agency eliminated this waste from the analysis.

a. Total Volume of First Third Wastes

The total volume of First Third wastes was estimated by identifying the volume of waste land disposed for each First Third waste code. The data source used for this analysis was the 1981 RIA Mail Survey. The total volume of First Third wastes is presented in Table C-1.

As discussed in previous sections, the California List land disposal restrictions are not waste code specific. They apply to all hazardous wastes, including some of the First Third wastes, that meet the specific characteristics promulgated in the July 8, 1987 rule. Consequently, there is some overlap between the California List and the First Third wastes, and a number of the latter may have already been restricted by the California List final rule. Because the RIA Mail Survey does not contain data on the concentration of contaminants within the waste streams, however, EPA was only able to identify First Third wastes that are potential California List wastes.

* Information obtained from a letter to the facility from EPA Region VIII.

Table C-1 Total Volume of Land Disposed
First Third Wastes
(million gallons/year)

Disposal method	Volume
Landfill	603.1
Land application	96.0
Storage in waste piles	71.9
Surface impoundments:	
Storage only	987.4
Treatment only	1,131.2
Storage and treatment	301.1
Disposal	<u>244.9</u>
Total	3,435.6

In order to determine the volume of First Third wastes potentially restricted from land disposal by the California List final rule, an analysis of each reported waste stream was conducted and those specific waste streams that were also potential California List wastes were identified. Waste streams were compared on the basis of EPA ID number, waste code, physical form code, management practice, and volume.

Based on this analysis, EPA estimates that over 94 percent or 3,234.3 million gallons of First Third wastes are also potential California List wastes. However, because the purpose of this document is to determine the amount of required and available treatment capacity for First Third wastes, the remainder of this document evaluates all wastes potentially affected by the proposed rule regardless of whether or not they are potential California List wastes.

b. Volume of First Third Wastes Affected by the Proposed Rule

The volumes in Table C-1 also include all First Third F and K coded wastes (wastes from specific and nonspecific sources) and P and U coded wastes (discarded commercial chemical products, off-specification products, containers, and spill residues thereof). However, today's proposed rule only applies to some of the First Third K wastes. Table C-2 presents the waste codes covered by today's proposal. The remaining wastes will be covered under separate proposals. Therefore, this document will only assess alternative capacity requirements for

Table C-2 Waste Codes Affected by The Proposed Rule

Waste codes
K004
K008
K015
K016
K018
K019
K020
K024
K030
K036
K037
K048
K049
K050
K051
K052
K061
K062
K069
K071
K073
K100
K103
K104

those K wastes covered in today's proposed rulemaking*. Table C-3 presents the volume of First Third wastes affected by the proposed rule.

* During EPA's evaluation of potential BDAT, the Agency discovered that K004, K008, K036, K069, K073, and K100 wastes are either completely recycled or no longer generated; consequently, the volumes of these wastes reported in the RIA Mail Survey have been excluded from this analysis.

Table C-3 Volume of Land Disposed First Third Wastes
Affected by the Proposed Rule (million gallons/year)*

Disposal method	Volume
Landfill	217.2
Land application	92.4
Storage in waste piles	51.1
Surface impoundments:	
Storage only	48.3
Treatment only	53.2
Storage and treatment	32.0
Disposal	<u>84.7</u>
Total	578.9

* Includes volumes from the following codes: K018, K024, K030, K048, K049, K050, K051, K052, K061, K062, K071, K103, and K104.

5. SUMMARY OF FIRST THIRD WASTE VOLUMES AFFECTED BY THE PROPOSED RULE

The Agency has determined that 578.9 million gallons of First Third wastes are land disposed annually and thus are affected by today's proposed rule. This estimate includes 48.3 million gallons reported as stored but not treated or disposed of in surface impoundments. EPA has assumed that all of the First Third wastes stored in surface impoundments are eventually treated or recycled or that they are routed to permanent disposal in other existing units. Therefore, the volumes of wastes reported as being stored in surface impoundments were not included in the estimates of volumes requiring alternative treatment capacity.

As a result, EPA estimates that only 530.6 million gallons of First Third wastes affected by today's proposal are land disposed annually and will require alternative treatment capacity. Of this total, EPA estimates that 85.2 million gallons from treatment impoundments will require alternative capacity in treatment surface impoundments that comply with the requirements of RCRA Section 3005(j)(11)(A) and (B), or in tank treatment systems. The remaining 445.4 million gallons from landfills, land application units, waste piles, and disposal impoundments will require alternative capacity on a long-term basis.

PART D

EVALUATION OF REQUIRED TREATMENT CAPACITY

For today's proposed rule, EPA is not requiring treatment technologies for any First Third wastes. Instead, the Agency is establishing treatment standards expressed as concentration limits, and is identifying the BDAT technology used by EPA to determine these treatment standards. The treatment technologies used by EPA to establish treatment standards include: incineration, wastewater treatment, wastewater treatment and incineration, chemical treatment, and high temperature metals recovery. The specific technologies are shown in Appendix C. In order to evaluate the capacity demands imposed by the First Third restrictions, EPA is assuming that the entire volume of waste estimated for each waste code will require treatment by the identified technology or technologies. The volumes were then summarized for each general category.

The Agency has determined that 168.7 million gallons annually of K015, K016, K018-K020, K024, K030, K037, and K048-K052 wastes will require incineration capacity; 230.3 million gallons per year of K062 will require wastewater treatment capacity; 29.1 million gallons per year of K103 and K104 will require wastewater treatment and incineration capacity; 8.0 million gallons per year of K071 will require chemical treatment capacity; and 94.5 million gallons of K061 will require high temperature metals recovery capacity. The results of EPA's analysis of

required treatment/recycling capacity are presented in Table D-1. Detailed analyses showing the capacity requirements for each specific technology are contained in Appendix C.

Table D-1 Required Treatment/Recycling Capacity
for First Third Wastes Affected
by the Proposed Rule
(million gallons per year)

Technology	Required treatment/ recycling capacity
Incineration	168.7
Wastewater treatment for K062	230.3
Wastewater treatment and incineration for K103 and K104	29.1
Chemical treatment for K071	8.0
High temperature metals recovery for K061	<u>94.5</u>
Total	530.6

PART E

EVALUATION OF AVAILABLE TREATMENT AND RECYCLING CAPACITY

This part details the amount of alternative treatment and/or recycling capacity available to manage wastes affected by today's proposed rule. EPA has assumed that First Third wastes will require the following types of treatment/recycling capacity: incineration, wastewater treatment, chemical treatment, and high temperature metals recovery.

EPA is currently conducting a national survey of hazardous waste treatment, storage, disposal, and recycling facilities (TSDRs). The survey is designed to gather data on the current operating status, commercial status, and waste management practices at these facilities. When this data base is available, EPA will reevaluate treatment/recycling capacity for wastes potentially affected by today's proposed rule. The Agency will also reconsider proposed capacity variances at that time.

1. INCINERATION CAPACITY

The Agency estimates that 168.7 million gallons per year of First Third wastes may potentially require incineration as a result of today's rule. EPA has identified rotary kiln incineration as BDAT for K016, K018, K019, K020, K024, K030, and K037 wastes; however, the Agency believes that a well-designed and well-operated fluidized bed incinerator will meet the BDAT standards.

Fluidized bed incineration followed by stabilization of metals in the ash has been identified as BDAT for K048, K049, K050, K051 and K052 wastes. While BDAT for these wastes is not based on rotary kiln incineration, EPA believes that rotary kiln incineration in a well-designed and well-operated unit followed by stabilization of metals in the ash will achieve the BDAT treatment standard for K048-K052 wastes.

EPA has identified liquid injection incineration as BDAT for K015 wastes. EPA believes, however, that incineration in a well-designed and well-operated industrial kiln/furnace will achieve the BDAT treatment standard for K015 wastes.

As a result of today's proposed rule, EPA estimates that 1.4 million gallons per year of First Third wastes may potentially require rotary kiln or fluidized bed incineration, and that 167.3 million gallons per year of First Third wastes may potentially require rotary kiln or fluidized bed incineration followed by stabilization of the ash. The Agency has determined that these totals include 8.9 million gallons of liquids, 159.2 million gallons of sludges, and 0.6 million gallons of solids.

EPA already determined for previous rules that commercial rotary kiln or fluidized bed incineration capacity for solids is not available (Refs. 2 and 3). Furthermore, EPA lacks the data to estimate onsite rotary kiln and fluidized bed incineration capacity. Consequently, EPA is proposing to grant a 2-year national capacity variance from the ban effective date for wastes requiring rotary kiln and fluidized bed incineration capacity.

The following First Third waste codes would potentially be affected by this variance: K016, K018, K019, K020, K024, K030, K037, K048, K049, K050, K051, and K052.

According to the RIA Mail Survey, no K015 wastes are being land disposed and thus no wastes will require liquid injection incineration or industrial kiln/furnace treatment capacity as a result of today's proposal. In light of the limitations of the RIA Mail Survey as discussed in Part C, Section 4, however, the Agency evaluated the 1985 Biennial Report data base in an attempt to quantify the volume of K015 land disposed and affected by today's proposal. This data base permits the identification of the volume of wastes for which a land disposal practice was reported as the final management the waste received during calendar year 1985. Using this data source, EPA estimates that 40,560 gallons per year of K015 wastes are land disposed and will potentially be affected by today's proposed rule.

For a previous rule (Ref. 3), the Agency determined that approximately 6 million gallons per year of commercially available liquid injection incineration capacity is currently available. Furthermore, as shown in Appendix E, EPA determined that the available treatment capacity in cement kilns is at least 37 million gallons per year. As a result, more than adequate treatment capacity exists for the small volume of K015 wastes requiring treatment, and the Agency is not proposing to grant a variance from the ban effective date to K015 wastes requiring incineration.

2. WASTEWATER TREATMENT FOR K062

The Agency estimates that 230.3 million gallons per year of K062 may potentially require wastewater treatment capacity as a result of today's proposal. EPA has identified chromium reduction, chemical precipitation, and vacuum filtration as BDAT for K062 wastes.

The Agency believes that wastewater treatment is generally available onsite. In fact, 103.1 million gallons (almost 45 percent) of K062 identified as land disposed in the 1981 RIA Mail Survey were reported as either metal hydroxide or wastewater treatment sludges, indicating that they have already been treated. Furthermore, the Agency previously determined (Ref. 2, 3, and 4) that some available commercial capacity exists.

In addition, of the 127.2 million gallons not reported as metal hydroxide or wastewater treatment sludges, nearly 74 percent (94.0 million gallons) are managed in surface impoundments. The Agency believes that some of these impoundments may be either retrofitted to meet the minimum technology requirements under RCRA or replaced by tank treatment systems. Consequently, EPA believes that adequate capacity for these wastes either exists or will exist prior to promulgation of the final rule, and therefore the Agency is not proposing to grant a capacity variance from the ban effective date to K062 wastes requiring wastewater treatment.

3. WASTEWATER TREATMENT AND INCINERATION FOR K103 AND K104

EPA estimates that 29.1 million gallons per year of K103 and K104 waste may potentially require wastewater treatment and incineration as a result of today's proposal. The Agency has identified solvent extraction followed by incineration of the solvent-contaminated extract, followed by steam stripping and carbon adsorption of the wastewater as BDAT for K103 and K104. The Agency estimates that 3.8 million gallons per year (approximately 13 percent of the original K103 and K014 volume) of solvent-contaminated extract will require incineration and that the entire 29.1 million gallons per year will require solvent extraction followed by steam stripping and carbon adsorption.

For today's proposed rule, the Agency performed an analysis to determine the amount of available commercial solvent extraction/steam stripping capacity. EPA identified (Refs. 8 and 9) nine facilities potentially offering solvent extraction on a commercial basis. The Agency used information from completed 1986 National Survey of Hazardous Waste Treatment, Storage, Disposal, and Recycling Facilities questionnaires (if available) and telephone calls to determine the number of these facilities actually performing solvent extraction/steam stripping on a commercial basis.

Three facilities were identified as having the potential to perform solvent extraction. One facility indicated that its solvent extractor was used as a polishing step in the distillation process and could not be

used separately without equipment changes. Furthermore, this facility did not have steam stripping capabilities. The second facility said that its solvent extraction unit was not currently in service and there was no immediate plans to place it into service. Finally, the third facility said they did offer solvent extraction/steam stripping on a commercial basis. The facility refused, however, to relay any data on the capacity of the units. Consequently, the results of this survey indicate that adequate commercial solvent extraction/steam stripping capacity does not exist, and the Agency lacks the data needed to evaluate available onsite treatment capacity.

The Agency believes that both liquid injection incineration and incineration in an industrial kiln/furnace will achieve the BDAT treatment standard for K103 and K104 wastes. Consequently, EPA evaluated treatment capacity for liquid injection incineration and for industrial kilns/furnaces.

The Agency identified approximately 6 million gallons per year of commercially available liquid injection incineration capacity (Ref. 3). Furthermore, EPA conducted a phone survey analysis of available treatment capacity for burning hazardous waste in cement kilns. This analysis is contained in Appendix E.

This analysis identified 14 cement kilns currently burning hazardous wastes, with a total 1986 capacity for hazardous waste of 144 million gallons per year. The 1986 utilization at these facilities was reported

as 107 million gallons per year. As a result, the Agency estimates that the available treatment capacity in cement kilns is at least 37 million gallons per year.

Additional planned capacity at these facilities was also evaluated for 1987 and 1988. The facilities estimated that their total capacity in 1987 or 1988 will be 209 million gallons per year. The Agency, therefore, estimates that future available capacity at these facilities will be 102 million gallons per year. Thus, adequate incineration and industrial kiln capacity currently exists for K103 and K104 wastes.

Based on the data presented above for solvent extraction/steam stripping capacity, however, the Agency does not believe that adequate alternative treatment capacity currently exists for the volume of K103 and K104 wastes requiring treatment. Thus, the Agency is proposing to grant a 2-year national capacity variance from the ban effective date to K103 and K104 wastes.

4. CHEMICAL TREATMENT FOR K071

EPA estimates that 8.0 million gallons of K071 waste per year may potentially require chemical treatment as a result of today's proposal. The Agency has identified acid leaching and chemical oxidation for nonwastewaters (brine muds) and sulfide precipitation followed by filtration for wastewaters as BDAT for K071 wastes.

This section analyzes the amount of required and available treatment capacity for K071 wastes. K071 is defined as brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.

During mercury cell production of chlorine, brine (salt-saturated water) is added to the cell as a source of chlorine. Following removal from the cell, the depleted brine solution is re-saturated with salt. The brine is then purified by adding treatment chemicals such as sodium carbonate and sodium hydroxide to remove unwanted contaminants. The muds resulting from this purification step are K071 wastes.

The BDAT treatment system is designed to solubilize and oxidize mercury, and separate mercury-containing wastewater from the brine muds. The mercury-containing wastewater (filtrate) is then further treated.

The raw K071 is initially fed into a waste collection or equalization tank. The waste is then fed into the acidification tank where the mercury is solubilized (dissolved) by reaction with acid. Next, the waste goes into the chemical oxidation tank where elemental mercury is

oxidized. The waste is then filtered and washed in a vacuum rotary drum filter to separate the mercury-containing wastewater from the brine muds. The mercury-containing wastewater is then treated by sulfide precipitation and filtration (Ref. 10). The sludge from the sulfide precipitation is hazardous waste K106.

The Agency is proposing to establish treatment standards on the K071 brine muds removed from the vacuum rotary drum filter and on the K071 wastewater following sulfide precipitation and filtration.

EPA identified 20 facilities that currently use the mercury cell process to produce chlorine. Of these facilities, six use prepurified brine and therefore do not generate K071, and four facilities have had their K071 waste delisted. Consequently, only ten facilities are currently generating K071 waste (Ref. 11).

Using the 1981 RIA Mail Survey, EPA estimates that 8.0 million gallons per year of K071 are land disposed. Recently, EPA, as part of the waste code relisting program, sent 3007 questionnaires to each generator of K071. According to the questionnaire data, 28,200 metric tons or about 7.5 million gallons* per year of K071 is landfilled by the ten facilities currently generating K071 (Ref. 11). Because of the similarity in the two volumes, the Agency is conservatively assuming that 8.0 million gallons per year will require alternative treatment capacity.

* Assumes conversion factors for water (264.4 gallons/ton).

The Agency has not uncovered any evidence of available treatment capacity at commercial treatment facilities. Furthermore, mercury cell production of chlorine is a declining industry. The two competing processes, diaphragm cell and membrane cell, do not generate hazardous waste, and the membrane cell process is about 15 to 25 percent more energy efficient than mercury cell production. Consequently, no new mercury cell chlorine production facilities have been constructed since 1970; therefore, the Agency does not believe that treatment capacity will be developed at commercial facilities for treatment of K071 wastes (Ref. 11).

Through the Agency's waste code relisting and BDAT programs, only one facility has been identified with the BDAT technology. This facility's K071 waste has been delisted. The Agency is aware of one other facility that is constructing the BDAT system. The majority of K071-generating facilities, however, do not have onsite BDAT treatment capacity. The Agency believes that generators will, as a result of land disposal restrictions, be required to install onsite treatment capacity.

The Agency prepared a report analyzing the time required to site and construct new hazardous waste treatment facilities (Ref. 12). Based on this report, EPA estimates that the proposed BDAT treatment system could be installed in 19 to 24 months. This estimate includes the time required for conceptual planning and design, detailed engineering design,

bid solicitation and evaluation, construction, and start-up. The estimate does not include the additional time required for preparation and approval of RCRA and/or State permit applications.

The Agency is therefore proposing to grant a 2-year national capacity variance from the ban effective date to generators of K071 waste.

5. HIGH TEMPERATURE METALS RECOVERY FOR K061

EPA estimates that 94.5 million gallons* per year of K061 waste may potentially require high temperature metals recovery as a result of today's proposal. The Agency has identified high temperature metals recovery as BDAT for K061 wastes.

For this proposed rule, the Agency performed an analysis of the amount of available treatment/recycling capacity for K061 waste. The analysis, contained in Appendix E, determined that current commercial capacity for K061 wastes is 62.4 million gallons per year and that a maximum of 81.6 million gallons per year of commercially available capacity for K061 may exist prior to promulgation (one facility is expecting a final operating permit in the summer of 1988). In either case, available commercial capacity is inadequate for the 94.5 million gallons per year requiring capacity. Furthermore, the Agency did not identify any onsite capacity.

In Appendix E, the Agency analyzed the length of time required to install a BDAT treatment system for K061 waste. Based on this analysis, EPA estimates that a BDAT treatment system could be constructed in 22 to 28 months. This estimate does not include the time required for

* In general, K061 is a dust or an APCD sludge and is usually measured in tons not gallons. In the RIA Mail Survey, however, all volumes were converted to gallons. To convert tons to gallons, 243.9025 gallons per ton was used.

preparation and approval of RCRA and/or State permit applications because high temperature metals recovery is considered recycling, and as such, is exempt from RCRA permitting. Consequently, the Agency is proposing to grant a 2-year national capacity variance from the ban effective date to K061 wastes.

PART F

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APPENDIX A

Documentation Supporting Estimates of the Volumes of First Third Wastes Handled by Various Management Practices

- Attachment 1: Computer Printout of the Total Volume of Land
Disposed First Third Wastes (RIA Mail Survey)
- Attachment 2: Computer Printout of the Volume of Land Disposed
First Third Wastes Affected by the Proposed Rule
(RIA Mail Survey)

ATTACHMENT 1

Computer Printout of the Total Volume
of Land Disposed First Third Wastes
(RIA Mail Survey)

16:23 THURSDAY, APRIL 30, 1967

PROC SAS

STEP B0268

MVS/XA JOB PRK14

OS SAS 5.16

1

NOTE: COPYRIGHT (C) 1964, 1966 SAS INSTITUTE INC., CARY, N.C. 27511, U.S.A.
NOTE: THE JOB PRK14 HAS BEEN RUN UNDER RELEASE 5.16 OF SAS AT THE ENVIRONMENTAL PROTECTION AGENCY (01169001).

NOTE: CPUID VERSION = 20 SERIAL = 170169 MODEL = 3090 .
CPUID VERSION = 20 SERIAL = 270169 MODEL = 3090 .

NOTE: SAS OPTIONS SPECIFIED ARE:

SORT=4

00000140
00000150
00000160
00000170
00000180
00000190
00000200
00000210
00000220
00000230

1 PROC EXPLODE;
2 PARMCARDS;
3 L
4 DATA REQUEST 81
5 OPTION A
6 REVISION 84
7 B0268
8
9 TITLE1 'FIRST THIRD LIST WASTE';
10

NOTE: EXPLODE IS NOT SUPPORTED BY THE AUTHOR OR BY SAS INSTITUTE INC.
NOTE: THE PROCEDURE EXPLODE USED 0.11 SECONDS AND 104K.

00000240
00000250
00000260
00000270
00000280
00000290
00000300
00000310
00000320
00000330
00000340
00000350

11 PROC FORMAT;
12 VALUE \$SI
13 1 = 'DISPOSAL IN LANDFILLS'
14 2 = 'DISPOSAL BY LAND APPLICATION'
15 3 = 'STORAGE IN WASTE PILES'
16 100 = 'SURFACE IMPOUNDMENT DISPOSAL ONLY'
17 010 = 'SURFACE IMPOUNDMENT STORAGE ONLY'
18 001 = 'SURFACE IMPOUNDMENT TREATMENT ONLY'
19 110 = 'DISPOSAL AND STORAGE IN SI'
20 101 = 'TREATMENT AND DISPOSAL IN SI'
21 011 = 'TREATMENT AND STORAGE IN SI'
22 111 = 'TREATMENT, STORAGE, AND DISPOSAL IN SI'
NOTE: FORMAT \$SI HAS BEEN OUTPUT.

00000360
00000370
00000380
00000390
00000400
00000410
00000420
00000430

23 VALUE \$CAT
24 204 = 'DISPOSAL BY INJECTION WELLS'
NOTE: WARNING! MODULE \$CAT IS ALREADY ON THE LIBRARY.
25 A = 'D-FIELD = 0'
26 B = 'D-FIELD = 100 TO 199'
27 C = 'D-FIELD = 200 TO 299'
28 D = 'D-FIELD = 300 TO 399'
29 E = 'D-FIELD = 400 TO 499'
30 F = 'D-FIELD = 500 TO 599'
NOTE: FORMAT \$CAT HAS BEEN OUTPUT.

00000440
00000450
00000460
00000470
00000480
00000490
00000500
00000510
00000520
00000530
00000540
00000550

31 VALUE \$T17JA
32 G = 'D-FIELD = 600 TO 699'
33 .C = 'OTHER NS'
34 .B = 'DK'
35 .A = 'NOT ACTD'
36 . = 'N/A'
37 1 = 'INJC WEL'
38 2 = 'LANDFILL'
39 3 = 'IMPOUND'
40 4 = 'LAND APL'
41 5 = 'OTHER SI'
42 6 = 'SI & LA'

16:23 THURSDAY, APRIL 30, 1987

PROC SAS

STEP B0266

MVS/XA JOB PRK14

OS SAS 5.16

SAS(R) LOG

```

43 7 = ' LF & 91'
44 8 = ' IM & 91'
45 9 = ' IM & LA'
46 10 = ' LF & LA'
NOTE: FORMAT T17JA HAS BEEN OUTPUT.
47 11 = ' IM & LF'
48
49
NOTE: THE PROCEDURE FORMAT USED 0.12 SECONDS AND 164K.

```

```

50 DATA SICCODE;
51 SET T63.ALL(KEEP=FCID T7A T7B) T63.XALL(KEEP=FCID T7A T7B READ=XXXXX);
52 BY FCID;
53 IF T7A/100 = INT(T7A/100) AND INT(T7A/100) = INT(T7B/100) THEN
54 T7A = T7B;
55 DROP T7B;
56
00000560
00000570
00000580
00000590
00000600
00000610
00000620
00000630
00000640
00000650
00000660
00000670
00000680
00000690

```

NOTE: MISSING VALUES WERE GENERATED AS A RESULT OF PERFORMING AN OPERATION ON MISSING VALUES.
EACH PLACE IS GIVEN BY: (NUMBER OF TIMES) AT (LINE):(COLUMN).

767 AT 53:6

NOTE: DATA SET WORK.SICCODE HAS 1462 OBSERVATIONS AND 2 VARIABLES. 1956 OBS/TRK.
NOTE: THE DATA STATEMENT USED 0.53 SECONDS AND 156K.

```

57 DATA ALL;
58 MERGE FIRSTTHRD.MAILLAND(IN=A) SICCODE;
59 BY FCID;
60 IF A;
61 IF T170 > 0 AND T17C LE 0 THEN T17C = T17A;
62 IF T176 > 0 AND T17F LE 0 THEN T17F = T17A;
63 IF T17J > 0 AND T17I LE 0 THEN T17I = T17A;
64 T17A = T17A * TIGHT;
65 T17C = T17C * TIGHT;
66 T17F = T17F * TIGHT;
67 T17I = T17I * TIGHT;
68
69 /* DISPOSAL IN LANDFILLS */
70 IF T17J = 2 OR T17J = 7 OR T17J = 10 THEN DO;
71 PROCESS = ' 1';
72 OUTPUT ALL;
73 END;
74
75 /* DISPOSAL BY LAND APPLICATION */
76 IF T17J = 4 OR T17J = 6 OR T17J = 10 THEN DO;
77 PROCESS = ' 2';
78 OUTPUT ALL;
79 END;
80
81 /* STORAGE IN WASTE PILES */
82 IF T170 = 4 OR T170 = 6 OR T170 = 9 OR T170 = 12 OR
83 T170 = 15 OR T170 = 16 OR T170 = 17 THEN DO;
84 PROCESS = ' 3';
85 OUTPUT ALL;
86 END;
87
00000700
00000710
00000720
00000730
00000740
00000750
00000760
00000770
00000780
00000790
00000800
00000810
00000820
00000830
00000840
00000850
00000860
00000870
00000880
00000890
00000900
00000910
00000920
00000930
00000940
00000950
00000960
00000970
00000980
00000990
00001000

```

16:23 THURSDAY, APRIL 30, 1967

```

3 SAS(R) LOG OS SAS 5.16 MVS/XA JOB HEK14 STEP B0288 PROC SAS
/* DISPOSAL BY INJECTION WELLS */
IF T17J = 1 OR T17J = 6 OR T17J = 9 OR T17J = 11 THEN DO;
PROCESS = '204';
OUTPUT ALL;
END;

FORMAT T17J T17JA. PROCESS $31. T17A T17C T17F T17I 9.0;
LABEL FCID = 'FACILITY_ID';
T7A = 'PRIMARY_SIC_CODE';
T17N = 'WASTE_CODE';
T17A = 'TOTAL_VOLUME_HANDLED';
T17I = 'DISPOSAL_VOLUME';
T17C = 'STORAGE_VOLUME';
T17F = 'TREATMENT_VOLUME';
T17G = 'WEIGHT';
T17ZD = 'PHYSICAL_FORM';
T17G = 'TREATMENT_METHOD';
T17D = 'STORAGE_METHOD';
T17J = 'DISPOSAL_METHOD';
,

DISP = '0'; STORE = '0'; TREAT = '0';
IF T17J = 3 OR T17J = 6 OR T17J = 7 THEN DISP = '1';
IF T17D = 3 OR T17D = 7 OR T17D = 10 OR T17D = 11 OR T17D = 12
OR T17D = 13 OR T17D = 15 OR T17D = 17 THEN STORE = '1';
IF T17G = 2 OR T17G = 5 OR T17G = 7 OR T17G = 10 OR T17G = 11 OR
T17G = 12 THEN TREAT = '1';
IF DISP = '1' OR STORE = '1' OR TREAT = '1' THEN DO;
PROCESS = DISPISTORETREAT;
OUTPUT ALL;
END;

```

NOTE: MISSING VALUES WERE GENERATED AS A RESULT OF PERFORMING
AN OPERATION ON MISSING VALUES.
EACH PLACE IS GIVEN BY: (NUMBER OF TIMES) AT (LINE):(COLUMN).

15 AT 64:10 251 AT 65:10 323 AT 66:10 226 AT 67:10

NOTE: DATA SET WORK.ALL HAS 567 OBSERVATIONS AND 26 VARIABLES. 240 OBS/TRK.
NOTE: THE DATA STATEMENT USED 0.25 SECONDS AND 172K.

```

123 PROC SORT DATA = ALL; BY PROCESS T17N T17ZD DESCENDING T17A;
124 OPTIONS NODATE NONUMBER;
125
126

```

NOTE: DATA SET WORK.ALL HAS 567 OBSERVATIONS AND 26 VARIABLES. 240 OBS/TRK.
NOTE: THE PROCEDURE SORT USED 0.35 SECONDS AND 608K.

```

127 DATA _NULL_;
128 SET ALL;
129 RETAIN TV TS TT TD OBS PCOLI;
130 FILE PRINT = H;
131

```

```

132      LINESLEFT = LL;
133      BY PROCESS;
134      COL1 = 1;
135      COL2 = COL1 + 9;
136      COL3 = COL2 + 12;
137      COL4 = COL3 + 9;
138      COL5 = COL4 + 7;
139      COL6 = COL5 + 10;
140      COL7 = COL6 + 7;
141      COL8 = COL7 + 9;
142      COL9 = COL8 + 7;
143      COL10 = COL9 + 10;
144      COL11 = COL10 + 11;
145      COL12 = COL11 + 11;
146      COL13 = COL12 + 10;
147      COL14 = COL13 + 10;
148
149      IF FIRST.PROCESS THEN DO;
150          OBS = 1; TV = 0; PCOL = 0;
151          TS = 0; TT = 0; TD = 0;
152          NEWPAGE = 'Y';
153          SELECT (PROCESS);
154              WHEN ('1') PCOL = 44;
155              WHEN ('2') PCOL = 41;
156              WHEN ('3') PCOL = 44;
157              WHEN ('204') PCOL = 41;
158              WHEN ('001') PCOL = 30;
159              WHEN ('010') PCOL = 39;
160              WHEN ('011') PCOL = 41;
161              WHEN ('100') PCOL = 30;
162              WHEN ('101') PCOL = 41;
163              WHEN ('110') PCOL = 42;
164              WHEN ('111') PCOL = 36;
165              OTHERWISE PUT 'ERROR ON PROCESS';
166          END;
167      END;
168
169      IF LL < 7 OR NEWPAGE = 'Y' THEN DO;
170          IF _N_ > 1 THEN PUT _PAGE_;
171      END;
172
173      PUT @COL1 OBS
174          @COL1+6 FCID
175          @COL3+3 T7A
176          @COL4 T17M
177          @COL5+5 T17ZD 3.0
178          @COL6 TNGHT
179          @COL7+3 T17A 9.0
180          @COL9 T17C 9.0
181          @COL10+2 T17D
182          @COL11 T17F 9.0
183          @COL12+1 T17G
184          @COL13 T17I 9.0
185          @COL14+1 T17J
186
187      CODE = SUBSTR(T17M,1,1);
188      CODE = ' ' OR CODE = 'D' OR T17M = '9995' THEN
189          PUT @COL1 'CONSTITUENT CODE';

```

```

SAS(R) LOG 05 SAS 5.16 MVS/XA JOB MKK14 STEP B0266 PROC SAS
190      @COL3 T17CC1
191      @COL3+5 T17CC2
192      @COL4+1 T17CC3
193      @COL4+6 T17CC4
194      @COL5+4 T17CC5
195      @COL5+9 T17CC6
196      @COL6+4 T17CC7
197      @COL7+2 T17CC8
198      @COL7+7 T17CC9
199      @COL8+3 T17CC10;
200
201      OBS +11
202      TV = SUM(TV,T17A11)
203      TS = SUM(TS,T17C11)
204      TT = SUM(TT,T17F11)
205      TD = SUM(TD,T17I11)
206      IF LAST.PROCESS THEN DO;
207      IF PROCESS = ' 1' OR PROCESS = ' 2' OR PROCESS = '204' OR PROCESS =
208      '100' THEN DO;
209      PUT @COL7+3 9M' '+1
210      @COL13 9M' '+1/
211      @COL1 'PROCESS TOTAL:'
212      @COL7+3 TV 9.0
213      @COL13 TD 9.0;
214      END;
215      IF PROCESS = ' 3' OR PROCESS = '010' THEN DO;
216      PUT @COL7+3 9M' '+1
217      @COL9 9M' '+1/
218      @COL1 'PROCESS TOTAL:'
219      @COL7+3 TV 9.0
220      @COL9 TS 9.0;
221      END;
222      IF PROCESS = '001' THEN DO;
223      PUT @COL7+3 9M' '+1
224      @COL11 9M' '+1/
225      @COL1 'PROCESS TOTAL:'
226      @COL7+3 TV 9.0
227      @COL11 TT 9.0;
228      END;
229      IF PROCESS = '110' THEN DO;
230      PUT @COL7+3 9M' '+1
231      @COL9 9M' '+1
232      @COL13 9M' '+1/
233      @COL1 'PROCESS TOTAL:'
234      @COL7+3 TV 9.0
235      @COL9 TS 9.0
236      @COL13 TD 9.0;
237      END;
238      IF PROCESS = '101' THEN DO;
239      PUT @COL7+3 9M' '+1
240      @COL11 9M' '+1
241      @COL13 9M' '+1/
242      @COL1 'PROCESS TOTAL:'
243      @COL7+3 TV 9.0
244      @COL11 TT 9.0
245      @COL13 TD 9.0;
246      END;
247      IF PROCESS = '011' THEN DO;

```

```

00002010
00002020
00002030
00002040
00002050
00002060
00002061
00002062
00002063
00002064
00002070
00002080
00002090
00002110
00002120
00002130
00002140
00002141
00002142
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00002181

```

SAS(R) LOG	OS SAS 5.16	HYV/XA JOB MK14	STEP B0200	PROC SAS
248	PUT 3COL7+3 9M' '+1			00002182
249	3COL9 9M' '+1			00002183
250	3COL11 9M' '+1			00002184
251	3COL1 'PROCESS TOTAL: '			00002185
252	3COL7+3 TV 9.0			00002186
253	3COL9 TS 9.0			00002187
254	3COL11 TT 9.0			00002188
255	END;			00002189
256	IF PROCESS = '111' THEN DO;			00002190
257				00002191
258	PUT 3COL7+3 9M' '+1			00002192
259	3COL9 9M' '+1			00002193
260	3COL11 9M' '+1			00002194
261	3COL13 9M' '+1			00002195
262	3COL1 'PROCESS TOTAL: '			00002196
263	3COL7+3 TV 9.0			00002197
264	3COL9 TS 9.0			00002198
265	3COL11 TT 9.0			00002199
266	3COL13 TD 9.0			00002200
267	END;			00002201
268	END;			00002202
269	RETURN;			00002203
270				00002204
271	H: PUT 3COL 'LAND DISPOSAL PROCESS = ' PROCESS /			00002290
272	3COL5+3 'DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3'//			00002300
273	3COL1 '083'			00002310
274	3COL2 'FACILITY'			00002320
275	3COL3 'PRIMARY'			00002330
276	3COL4 'WASTE'			00002340
277	3COL5+1 'PHYSICAL'			00002350
278	3COL6 'WEIGHT'			00002360
279	3COL7+1 'TOTAL VOLUME'			00002370
280	3COL9 'STORAGE'			00002380
281	3COL10 'STORAGE'			00002400
282	3COL11 'TREATMENT'			00002410
283	3COL12 'TREATMENT'			00002420
284	3COL13 'DISPOSAL'			00002430
285	3COL14 'DISPOSAL'			00002440
286	3COL2+3 'ID'			00002450
287	3COL3+2 'SIC'			00002460
288	3COL4+1 'CODE'			00002470
289	3COL5+3 'FORM'			00002480
290	3COL7+4 'HANDLED'			00002490
291	3COL9+1 'VOLUME'			00002500
292	3COL10+1 'METHOD'			00002510
293	3COL11+2 'VOLUME'			00002520
294	3COL12+2 'METHOD'			00002530
295	3COL13+1 'VOLUME'			00002540
296	3COL14+1 'METHOD'			00002550
297	3COL3+2 'CODE'//			00002560
298	3COL1 132M' '+1/			00002570
299				00002580
300	RETURN;			00002590
301				00002600
302				00002610

NOTE: AT LEAST ONE H.D. FORMAT WAS TOO SMALL FOR THE NUMBER TO BE PRINTED. THE DECIMAL POINT MAY BE SHIFTED BY THE

SAS(R) LOG OS SAS 5.16 MVS/XA JOB PRK14 STEP B0288 PROC SAS

'BEST' FORMAT.

NOTE: 760 LINES WERE WRITTEN TO FILE PRINT.

NOTE: THE DATA STATEMENT USED 0.31 SECONDS AND 124K AND PRINTED PAGES 1 TO 20.

NOTE: SAS USED 600K MEMORY.

NOTE: SAS INSTITUTE INC.

SAS CIRCLE

PO BOX 8000

CARY, N.C. 27511-8000

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL IN LANDFILLS
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

Q63	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT HANDLED	TOTAL VOLUME	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	XXXX9999908	9900	0004	100	1.8377	208923		N/A		N/A	806433	LANDFILL
2	CONSTITUENT CODE:	P120										
3	CTD0000841163	3471	F006	201	1.4377	560716		N/A		N/A	560716	LANDFILL
4	LAD000777201	4953	F006	201	1.8368	363541		N/A	363541	IMPOUND	363541	LANDFILL
5	PAD000443705	3341	F006	201	1.9203	129269		N/A		N/A	129269	LANDFILL
6	CTD0000844308	3471	F006	201	1.46	37742		N/A		N/A	37742	LANDFILL
7	CTD0081296758	8800	F006	201	1.9203	3278		N/A		N/A	3278	LANDFILL
8	MID0048090633	4953	F006	202	1.9203	38357294		N/A		N/A	38357294	LANDFILL
9	ALD000622464	4953	F006	202	1.8368	3716649		N/A		N/A	3716649	LANDFILL
10	MID003967148	4953	F006	202	1.2258	3112934		N/A	1072725	IMPOUND	3112934	LF & SI
11	XXX999999119	9900	F006	202	1.8377	2781807		N/A		N/A	2781807	LANDFILL
12	IND000608050	3674	F006	202	1.4543	709415		N/A		N/A	709415	LANDFILL
13	PAD0005033055	3743	F006	202	1.189	640900		N/A		N/A	640900	LANDFILL
14	CTD001289133	4953	F006	202	2.0118	339063		N/A		N/A	339063	LANDFILL
15	MID0047153077	3471	F006	202	1.5338	161610		N/A	161610	TANKS	161610	LANDFILL
16	LAD000777201	4953	F006	202	1.8368	96450		N/A	96450	IMPOUND	96450	LANDFILL
17	MID000846535	3471	F006	202	1.7758	81861		N/A		N/A	81861	LANDFILL
18	PAD000443705	3341	F006	202	1.9203	22012		N/A		N/A	22012	LANDFILL
19	PAD000443705	3341	F006	202	1.9203	16860		N/A		N/A	16860	LANDFILL
20	SCD0065053217	3552	F006	202	1.2027	3814		IMPOUND	3814	TK & SI	3814	LANDFILL
21	XXX9999991127	9900	F006	208	4	1092684		N/A		N/A	1092684	LANDFILL
22	XXX999999114	4953	F006	208	1.8565	798620		N/A		N/A	798620	LANDFILL
23	XXX999999003	8090	F006	208	2.1032	584793		N/A		N/A	584793	LANDFILL
24	KSD007092952	4953	F006	301	1.1348	725371		IMPOUND	323758	IMPOUND	401606	LANDFILL
25	CTD010631952	3496	F006	301	1.2999	161695		N/A		N/A	161695	LANDFILL
26	SCD000574967	3541	F006	302	1.4463	4558377		IMPOUND	4558377	TANKS	4558377	LANDFILL
27	PAD000429589	4953	F007	302	1.5721	1183963		N/A		TANKS	1183963	LANDFILL
28	MID0890010515	9711	F008	302	1.5181	1259		N/A	1259	N/A	1259	LANDFILL
29	MID0890010515	9711	F008	302	1.5721	149		N/A		N/A	149	LANDFILL
30	PAD000429589	4953	F009	302	1.8565	1183963		N/A		N/A	1183963	LANDFILL
31	XXX999999114	4953	F009	302	1.5181	340820		N/A		N/A	340820	LANDFILL
32	MID0890010515	4212	K018	101	1.1025	592		N/A		N/A	592	LANDFILL
33	XXX999999113	2865	K024	502	1.4715	612291		N/A		N/A	612291	LANDFILL
34	TXD0001700707	4953	K031	500	1.1442	352801		N/A		N/A	352801	LANDFILL
35	VAI210020730	2892	K044	202	1.1633	2980966		N/A		N/A	2980966	LANDFILL
36	CAZ000090002	9711	K044	202	1.5196	84057		CH & SI		N/A	84057	LANDFILL
37	XXX999999127	9900	K048	504	4	1538		N/A	1538	OTHER SP	1538	LANDFILL
38	XXX999999114	4953	K048	504	1.8565	5340488		N/A		N/A	5340488	LF & LA
39	XXX999999127	9900	K049	504	4	120355		N/A		N/A	120355	LANDFILL
40	CAD0041835695	4953	K049	504	1.9203	5614636		N/A		N/A	5614636	LF & LA
41	XXX999999067	2911	K049	506	1.1533	2346184		N/A		N/A	2346184	LANDFILL
42	MID0799559185	2900	K050	504	1.4279	183541		N/A		N/A	183541	LF & LA
43	XXX999999116	N/A	K051	504	2.3524	43		IMPOUND	8917908	OTHER SP	43	LANDFILL
44						13540645					13540645	

* - Waste is not a First Third Waste

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL IN LANDFILLS
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	PAD000429569	4953	K051	504	1.5721	5112724	.	N/A	.	N/A	5112724	LANDFILL
46	XXX999999115	4953	K051	504	1.7750	1071111	329300	NOT ACTD	.	N/A	1071111	LANDFILL
47	TXD080626774	2900	K051	504	1.3693	339319	.	N/A	328874	OTHER SP	10019	LANDFILL
48	TXD055141378	N/A	K051	504	1.2258	328874	.	N/A	316252	TANKS	472849	LANDFILL
49	XXX999999117	N/A	K051	504	1.1404	316252	.	N/A	.	N/A	235120	LF & LA
50	XXX999999127	9900	K051	504	4	235120	.	N/A	.	N/A	84361	LANDFILL
51	XXX999999114	4953	K051	504	1.0565	84361	.	N/A	.	N/A	24124	LANDFILL
52	TXD005964598	2900	K051	504	1.4563	24124	.	N/A	.	N/A	9143506	LANDFILL
53	XXX999999117	N/A	K052	506	1.1404	9143506	.	N/A	.	N/A	573944	LANDFILL
54	IND050330872	4953	K052	506	1.5512	573944	.	N/A	431426	IMPOUND	431426	LANDFILL
55	LAD000777201	4953	K052	506	1.8368	431426	.	N/A	.	N/A	75526	LANDFILL
56	CA4170024414	1300	K052	506	2.1032	75526	.	N/A	.	N/A	26304	LANDFILL
57	TXD980826774	2900	K052	506	1.3693	26304	.	N/A	.	N/A	19508	LANDFILL
58	XXX999999116	N/A	K052	506	2.3524	19508	12778	IMPOUND	12778	OTHER SP	7281	LANDFILL
59	TXD005964598	2900	K052	506	1.4563	7281	.	N/A	7281	IMPOUND	13337367	LANDFILL
60	PAD002860377	2019	K061	103	2.1032	13337367	.	N/A	.	N/A	9992586	LANDFILL
61	MID048090633	4953	K061	207	1.9203	9992586	.	N/A	.	N/A	5957310	LANDFILL
62	TXD000836896	4953	K061	207	1.1442	5957310	.	N/A	.	N/A	4595929	LANDFILL
63	TXD000802959	3312	K061	207	1.1791	4595929	.	N/A	.	N/A	3582349	LANDFILL
64	MIT270010093	3313	K061	207	1.8452	3582349	.	N/A	.	N/A	2904982	LANDFILL
65	OH000384248	9900	K061	207	2.1032	2904982	.	N/A	.	N/A	2710442	LANDFILL
66	TXD066362559	3312	K061	207	1.5246	2710442	.	N/A	.	N/A	2421355	LANDFILL
67	XXX999999114	4953	K061	207	1.0565	2421355	.	N/A	.	N/A	2020490	LANDFILL
68	TXD000836896	4953	K061	207	1.1442	2020490	.	N/A	.	N/A	1881830	LANDFILL
69	PAD000429569	4953	K061	207	1.2258	1881830	.	N/A	1743626	IMPOUND	1874577	LANDFILL
70	ALD000622464	4953	K061	207	1.0728	1799687	.	N/A	.	N/A	1799687	LANDFILL
71	TXD005444062	3312	K061	207	1.7356	1721207	.	N/A	.	N/A	1721207	LANDFILL
72	TXD005263157	3312	K061	207	1.6368	1128831	.	N/A	.	N/A	1128831	LANDFILL
73	MID000810408	4953	K061	207	1.7347	455442	.	N/A	.	N/A	455442	LANDFILL
74	TXD990797441	3521	K061	207	1.6676	244038	.	N/A	.	N/A	244038	LANDFILL
75	TXD007398175	3312	K061	207	1.2301	183838	.	N/A	.	N/A	183838	LANDFILL
76	PAD007496789	3312	K061	207	1.9203	69257766	.	N/A	.	N/A	69257766	LANDFILL
77	TXD980826774	2819	K062	201	2.1032	73113	.	N/A	.	N/A	73113	LANDFILL
78	PAD002860377	4953	K062	201	1.8565	16456575	16456575	TANKS	6202862	TK & OTR	6202862	LANDFILL
79	XXX999999114	4953	K062	308	1.4829	16456575	.	N/A	.	N/A	7847471	LANDFILL
80	NYD002134880	4953	K062	308	1.9203	7847471	.	N/A	.	N/A	1183963	LANDFILL
81	MID048090633	4953	K062	308	1.5721	1183963	.	N/A	.	N/A	1147613	LANDFILL
82	PAD000429569	4953	K062	308	1.7356	1147613	.	N/A	.	N/A	313078	LANDFILL
83	ILD005263157	3312	K062	308	1.2999	313078	.	N/A	.	N/A	198925	LANDFILL
84	CTD010631952	3496	K062	308	1.4829	213032	213032	TANKS	198925	TK & OTR	198925	LANDFILL
85	NYD002134880	3312	K062	308	1.5446	76099	.	N/A	76099	TANKS	76099	LANDFILL
86	TXD007310694	3471	K063	308	1.46	6192	.	N/A	.	N/A	6192	LANDFILL
87	CTD000844308	3471	K063	308	1.46	6192	.	N/A	.	N/A	6192	LANDFILL
88	PAD0073613643	3441	K064	307	1.5413	9888245	.	N/A	.	N/A	9888245	LF & SP

** - Waste is no longer generated

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL IN LANDFILLS
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT HANDLED	TOTAL VOLUME	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
89	AL004448432	3341	K069	207	1.1839	1018303	1018303	NOT FILE	.	N/A	1018303	LANDFILL
90	DED003913266	2812	K071	200	1.1704	2433252	.	N/A	.	N/A	2433252	LANDFILL
91	KY0006370159	2819	K071	200	1.4907	1261278	.	N/A	1261278	TANKS	1261278	LANDFILL
92	GAD0040690737	2812	K071	200	1.2527	306010	.	N/A	.	N/A	306010	LANDFILL
93	MED000242701	2812	K071	200	1.368	330536	.	N/A	.	N/A	330536	LANDFILL
94	LAD000777201	4953	K071	200	1.0368	244834	.	N/A	244834	IMPOUND	244834	LANDFILL
95	MI0048090633	4953	K086	500	1.9203	3831233	.	N/A	.	NOT ACTD	3831233	LANDFILL
96	SCD980500292	2869	K086	500	1.0628	10563	10563	CONTAINER	.	N/A	10563	LANDFILL
97	MIT270010093	3313	K087	503	1.0452	1726891	.	N/A	.	N/A	1726891	LANDFILL
98	PAD000436014	4953	K087	503	1.0143	1574927	.	N/A	.	N/A	1574927	LANDFILL
99	MI0000810408	4953	K087	503	1.0368	803670	.	N/A	.	N/A	803670	LANDFILL
100	N/D002134800	3312	K087	503	1.4029	21701	21701	CONTAINER	.	N/A	21701	LANDFILL
101	XX999999117	N/A	K106	101	1.1404	1124546	.	N/A	.	N/A	1124546	LANDFILL
102	DED003913266	2812	K106	202	1.1784	96571	.	N/A	.	N/A	96571	LANDFILL
103	GAD040690737	2812	K106	202	0.8527	19555	.	N/A	.	N/A	19555	LANDFILL
104	MED00242701	2812	K106	202	1.368	1016	.	N/A	.	N/A	1016	LANDFILL
105	XX9999999048	9900	P012	100	1.8377	448	.	N/A	.	N/A	448	LANDFILL
106	XX999999128	9900	P015	100	4	96672	.	N/A	.	N/A	96672	LANDFILL
107	NH0890010515	9711	P015	100	1.5101	370	.	N/A	.	N/A	370	LANDFILL
108	XX9999999048	9900	P018	510	1.8377	112	.	N/A	.	N/A	112	LANDFILL
109	XX9999999048	9900	P020	510	1.0377	4931	.	N/A	.	N/A	4931	LANDFILL
110	GAD030035356	2879	P070	510	1.1227	62707	.	N/A	.	N/A	62707	LANDFILL
111	XX9999999048	9900	P071	510	1.8377	897	.	N/A	.	N/A	897	LANDFILL
112	XX9999999047	9900	P092	0	1.7896	26626	.	N/A	.	N/A	26626	LANDFILL
113	XX9999999047	9900	P094	510	1.7896	33609	.	N/A	.	N/A	33609	LANDFILL
114	XX9999999048	9900	P094	510	1.8377	3585	.	N/A	.	N/A	3585	LANDFILL
115	XX9999999048	9900	P120	110	1.0377	169427	.	N/A	.	N/A	169427	LANDFILL
116	XX9999999111	3339	P120	110	1.1787	1430	.	N/A	.	N/A	1430	LANDFILL
117	TXD000751172	2869	U009	500	1.1151	3154	.	N/A	3154	OTHER SP	3154	LANDFILL
118	LAD00077201	4953	U019	303	1.8368	337574	.	N/A	337574	IMPOUND	337574	LANDFILL
119	COT090011529	8200	U019	400	1.2146	7	.	N/A	7	OTHER SP	7	LANDFILL
120	LAD00077201	4953	U019	407	1.0368	306005	.	N/A	306005	IMPOUND	306005	LANDFILL
121	TXD0000830896	4953	U037	500	1.1442	727910	.	N/A	727910	IMPOUND	727910	LANDFILL
122	TXD0008113441	2869	U122	101	1.1977	2921	.	N/A	1461	INCINER	1461	LANDFILL
123	COT090011529	8200	U122	400	1.2146	63	.	N/A	63	OTHER SP	63	LANDFILL
124	CKD0007233036	2900	U134	308	1.1246	112460	.	N/A	112460	NOT ACTD	112460	LANDFILL
125	XX9999999111	3339	U134	308	1.1787	86	.	N/A	.	N/A	86	LANDFILL
126	SCD980500292	2869	U154	301	1.8628	74853	.	N/A	.	NOT ACTD	74853	LANDFILL
127	NH0890010515	9711	U157	510	1.5101	149	.	N/A	.	N/A	149	LANDFILL
128	XX9999999128	9900	U158	510	4	68216	.	N/A	.	N/A	68216	LANDFILL
129	TXD0008071227	3069	U159	400	1.7347	2538	.	N/A	.	N/A	2538	LANDFILL
130	SCD980500292	2869	U159	401	1.8628	13317	.	N/A	.	NOT ACTD	13317	LANDFILL
131	XX9999999128	9900	U168	0	4	126920	.	N/A	.	N/A	126920	LANDFILL
132	COT090011529	8200	U188	510	1.2146	10	.	N/A	.	N/A	10	LANDFILL

** - Waste is no longer generated

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL IN LANDFILLS
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 93

OB5	FACILITY ID	PRIMARY SIC	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL HANDLED	VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
133	TXD006071227	3069	U220	400	1.7347	170		N/A		N/A	170	LANDFILL
134	XXX9999991119	9900	U220	500	4	506096		N/A		N/A	506096	LANDFILL
135	LAD000777201	4953	U221	606	1.6366	319026		N/A		N/A	319026	LANDFILL
136	TXD000636896	4953	U223	606	1.1442	1431557		N/A		N/A	1431557	LANDFILL
137	IND005444062	3312	U226	500	1.0728	70		N/A		N/A	16747	LANDFILL
138	CAD0041835695	4953	U228	400	1.9203	422		N/A		N/A	211	LANDFILL
139	NH0690010515	9711	U228	400	1.5101	260		N/A		N/A	260	LANDFILL
140	HID000810408	4953	X024	208	1.6368	204770		N/A		N/A	204770	LANDFILL
CONSTITUENT CODE:												
141	IND050530872	F006 D007	4953	X085	504	1.5512	377207			N/A	377207	LANDFILL
CONSTITUENT CODE:												
142	HYD000816419	K051 K049	4953	X087	202	1.8828	3802503			N/A	3802503	LANDFILL
CONSTITUENT CODE:												
143	XXX999999115	K002 K003 K004	4953	X092	201	1.7758	3277668			N/A	3277668	LANDFILL
CONSTITUENT CODE:												
144	HID006014906	0002 D003 K062	2012	X106	101	1.3204	299968472			N/A	299968472	LANDFILL
CONSTITUENT CODE:												
145	HJD001519107	U044 U126 U127	3399	X144	207	1.6676	147237			N/A	147237	LANDFILL
CONSTITUENT CODE:												
146	TXD001700806	K061 D006 D007 D008	2669	X180	500	1.1018	859942			N/A	859942	LANDFILL
CONSTITUENT CODE:												
147	TXD001700806	K011 K013	2669	X181	202	1.1018	128453			N/A	128453	LANDFILL
CONSTITUENT CODE:												
148	XXX999999115	U002 U188	4953	X193	101	1.7758	1564004			N/A	1564004	LANDFILL
CONSTITUENT CODE:												
149	XXX999999116	0006 D008 F006	N/A	NO EPA CODE	612	2.3524	97860	IMPOUND	97860	OTHER SP	148603	LANDFILL
CONSTITUENT CODE:												
PROCESS TOTAL:												
							624195113					
							603273211					

* - Waste is not a First Third Waste
** - Waste is no longer generated

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL BY LAND APPLICATION
DATA SOURCE: RIA MAIL SURVEY TSU GENERAL VERSION #3

003	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT HANDLED	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	CAD000633164	4953	F006	202	1.2104	51664		N/A		N/A	51664	SI & LA
2	CTD001145267	3621	F006	208	2.1631	3429	3429	OTHER SP		N/A	3429	LAND APL
3	HOD0007129406	2491	K001	202	1.5414	23659	311	IMPOUND		N/A	23348	LAND APL
4	TXD000835249	9900	K048	407	1.2713	533326		N/A		N/A	533326	LAND APL
5	ARD000021998	2911	K048	504	1.3222	8707172	8707172	CN & SI	8707172	TANKS	2929802	LAND APL
6	TXD0065099160	2911	K048	504	1.3701	7201246	7201246	TANKS		N/A	7201246	LAND APL
7	XXX999999127	9900	K048	504	4	5340488		N/A		N/A	5340488	LF & LA
8	CAD000633164	4953	K048	504	1.2104	1121834		N/A		N/A	1121834	SI & LA
9	XXX999999121	N/A	K048	504	4	645108		N/A		N/A	645108	LAND APL
10	IND0044908663	2911	K048	504	1.109	261291	261291	CN & SI		N/A	261291	LAND APL
11	TXD000807859	2911	K048	504	1.5414	127071		N/A		N/A	127071	LAND APL
12	OKD007234586	2900	K048	504	1.5106	114216		N/A		N/A	114216	LAND APL
13	LAD0062662887	2900	K048	504	1.1678	27344		N/A		N/A	27344	LAND APL
14	ALD004009320	2911	K048	504	1.5414	24437		N/A	24437	OTHER SP	24437	LAND APL
15	HIT160010005	2911	K048	504	1.1812	8643		N/A		N/A	8643	LAND APL
16	LAD081999724	2900	K048	504	1.5414	8271	8271	IMPOUND		N/A	8271	LAND APL
17	HTD000475194	2900	K048	504	1.5414	1993	1993	CONTAINER		N/A	1993	LAND APL
18	LAD041514811	1321	K048	504	2.3043	39		N/A		N/A	39	LAND APL
19	PSD000686071	2911	K049	504	1.5414	1292657	1292657	TANKS		N/A	1292657	LAND APL
20	XXX999999067	2911	K049	406	1.1533			N/A		N/A		LAND APL
21	XXX999999127	9900	K049	504	4	142315		N/A		N/A	142315	LAND APL
22	TXD048210645	2900	K049	504	1.5414	5614636		N/A		N/A	5614636	LF & LA
23	TXD082688979	2911	K049	504	1.4014	5346027	5346027	TANKS	5346027	OTHER SP	5346027	LAND APL
24	LAD065485146	2900	K049	504	1.1347	1201786		N/A		N/A	1201786	LAND APL
25	XXX999999121	N/A	K049	504	4	895582		N/A		N/A	895582	LAND APL
26	OKD007233036	2900	K049	504	1.1246	645108		N/A		N/A	645108	LAND APL
27	ILD042671248	2900	K049	504	1.6439	421039		N/A		N/A	421039	SI & LA
28	TXD000807859	2911	K049	504	1.5414	411028		N/A		N/A	411028	LAND APL
29	HAD009275082	2911	K049	504	1.7219	160011		N/A		N/A	160011	LAND APL
30	VAD050990357	2911	K049	504	1.4279	91942	840	TANKS		N/A	91942	LAND APL
31	TXD000835249	9900	K049	504	1.2713	63720		N/A		N/A	63720	LAND APL
32	OKD007234586	2900	K049	504	1.5106	41239	41239	TANKS		N/A	41239	LAND APL
33	ALD004009320	2911	K049	504	1.5414	1881		N/A	1881	OTHER SP	1881	LAND APL
34	TXD065099160	2911	K049	504	1.3701	1640	1640	TANKS		N/A	1640	LAND APL
35	VAD083474663	2911	K049	504	1.5414	1504		N/A		N/A	1504	LAND APL
36	VAD050990357	2911	K049	504	1.4279	1045		N/A		N/A	1045	LAND APL
37	NPD000333211	2900	K049	504	1.2918	946		N/A		N/A	946	LAND APL
38	LAD041514811	1321	K049	504	1.5414	116		N/A		N/A	116	LAND APL
39	HTD000686071	2911	K049	504	2.3043	2085110	2085110	TANKS		N/A	2085110	LAND APL
40	XXX999999067	2911	K049	506	1.1533	183541		N/A		N/A	59861	LF & LA
41	OKD007234586	2900	K050	504	1.5106	131966		N/A		N/A	131966	LAND APL
42	TXD048210645	2900	K050	504	1.5414	7519		N/A		N/A	7519	LAND APL
43	HAD009275082	2911	K050	504	1.7219	3359		N/A		N/A	3359	LAND APL
44	HTD000686071	2911	K050	504	2.3043	1687		N/A		N/A	1687	LAND APL

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL BY LAND APPLICATION
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	PHYSICAL WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	TXD065099160	2911	K050	504	1.3701	1640	1640	TANKS	.	N/A	1640	LAND APL
46	XXX99999012	2900	K050	504	1.2138	552	.	N/A	.	N/A	592	LAND APL
47	NMD000333211	2900	K050	504	1.2918	315	.	N/A	.	N/A	315	LAND APL
48	NJT00029447	2911	K051	504	1.3701	5984734	5984734	TANKS	.	N/A	4770140	LAND APL
49	WAD009275062	2911	K051	504	1.7219	4619732	.	N/A	4619732	TANKS	614004	LAND APL
50	LAD062662887	2900	K051	504	1.1678	3757469	.	N/A	.	OTHER SP	3757469	LAND APL
51	TXD048210645	2900	K051	504	1.5414	3691089	3691089	TANKS	3691089	N/A	2145223	LAND APL
52	XXX99999012	2900	K051	504	1.2138	3145223	.	N/A	.	N/A	2240766	LAND APL
53	TL0042671248	2900	K051	504	1.6439	2240766	.	N/A	.	N/A	1059884	SI & LA
54	CAD000633164	4953	K051	504	1.2104	1859884	.	N/A	.	N/A	730374	SI & LA
55	CAD00060012	4953	K051	504	1.2104	730374	.	N/A	.	N/A	730374	SI & LA
56	XXX99999121	N/A	K051	504	4	645108	.	N/A	.	N/A	645108	LAND APL
57	TXD000835249	9900	K051	504	1.2713	518442	.	N/A	.	N/A	518442	LAND APL
58	CXD007233836	2900	K051	504	1.1246	430914	.	N/A	.	N/A	430914	SI & LA
59	TXD008476663	2911	K051	504	1.5414	413171	15038	TANKS	.	N/A	413171	LAND APL
60	TXD000807859	2911	K051	504	1.5414	284971	.	N/A	283658	IMPOUND	283658	LAND APL
61	CAD079089512	4953	K051	504	1.163	235120	.	N/A	235120	LF & LA	235120	LF & LA
62	XXX99999127	9900	K051	504	4	225587	.	CN & SI	.	N/A	225587	LAND APL
63	IND044908663	2911	K051	504	1.109	177954	.	N/A	.	N/A	177954	LAND APL
64	LAD065485146	2900	K051	504	1.1347	150381	.	TANKS	.	N/A	3759	LAND APL
65	LAD041514811	1321	K051	504	1.5414	146621	.	N/A	.	N/A	116000	LAND APL
66	XXX99999120	N/A	K051	504	4	116000	.	N/A	.	N/A	87068	LAND APL
67	VAD050990357	2911	K051	504	1.4279	87068	.	N/A	.	NOT ACTD	78769	LAND APL
68	NMD000333211	2900	K051	504	1.2918	78769	.	N/A	.	N/A	34527	LAND APL
69	TXD065099160	2911	K051	504	1.3701	34527	.	N/A	.	N/A	29324	LAND APL
70	LAD081999724	2900	K051	504	1.5414	29324	29324	IMPOUND	.	N/A	11240	LAND APL
71	MAD000686071	2911	K051	504	2.3043	11240	.	N/A	.	N/A	4469	LAND APL
72	TXD051161990	2900	K051	504	1.1453	6705	6705	TANKS	.	N/A	151	LAND APL
73	TXD000475194	2900	K051	504	1.5414	151	151	CONTAINER	.	N/A	868205	LAND APL
74	TXD000835249	9900	K052	506	1.2713	868205	.	N/A	.	N/A	22099	LAND APL
75	TL0042671248	2900	K052	506	1.6439	22099	.	N/A	.	N/A	1843	LAND APL
76	WAD006230189	2900	K052	506	1.5106	1843	.	N/A	.	N/A	1576	LAND APL
77	NMD000333211	2900	K052	506	1.2918	1576	.	N/A	.	N/A	420	LAND APL
78	MAD009275082	2911	K052	506	1.5106	23	.	N/A	23	OTHER SP	23	LAND APL
79	OKD007234586	3312	K062	308	1.0728	28432343	.	N/A	12081822	TK & SI	16350520	SI & LA
80	IND005444062	2879	P070	603	1.1227	3368100	.	N/A	3368100	IMPOUND	3368100	LAND APL
81	GAD030035356	2879	P110	400	1.2138	61	.	N/A	.	N/A	61	LAND APL
82	XXX99999012	2900	P110	400	1.3063	3	.	N/A	3	IMPOUND	3	LAND APL
83	XXX999990081	2865	U009	300	1.429	182912	182912	TANKS	182912	TANKS	167193	LAND APL
84	MCD077821296	2800	U122	300	1.3063	3	.	N/A	3	IMPOUND	3	LAND APL
85	XXX999990081	2865	U188	510	1.3063	3	.	N/A	8187183	TANKS	8187183	LAND APL
86	KSD007233422	2900	X101	407	1.3701	16374368	.	N/A	.	TANKS	167005	LAND APL
87	KSD007233422	K049 K048	X102	504	1.3701	334170	368354	IMPOUND	167005	TANKS	167005	LAND APL
88	CONSTITUENT CODE:	2900	X102									
89	CONSTITUENT CODE:	K051	K050 070X									

FIRST THIRD LIST WASTE
 LAND DISPOSAL PROCESS = DISPOSAL BY LAND APPLICATION
 DATA SOURCE: RIA HAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
28	TXD990797714	2911	X166	504	1.5414	20507766	N/A	20507550	OTHER SP	5126847	IM & LA
CONSTITUENT CODE: K048 K049 K050 K051						<u>139752439</u>				<u>96026936</u>	
PROCESS TOTAL:											

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = STORAGE IN WASTE PILES
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	TOTAL WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	CTD000604488	9500	F006	201	1.6024	2724000	2724000	TK CH MP	1922860	TANKS		N/A
2	NYD00123336	3471	F006	201	1.4912	52738	52738	MST PILE		N/A		N/A
3	MID009631194	4200	F006	202	1.494	3735000	3735000	MST PILE	3735000	IMPOUND		N/A
4	MD0074923392	4953	F006	202	1.463	2650353	2650353	TK & MP	2850353	TANKS		N/A
5	MID005356886	3714	F006	202	1.7193	2718172	2718172	MST PILE		N/A		N/A
6	NYD002126852	3714	F006	202	1.2132	2434390	2434390	MST PILE		N/A		N/A
7	NJD002345247	3497	F006	202	1.3438	900018	163878	SI & MP		N/A		N/A
8	TXD0006016958	3721	F006	202	1.4543	718637	718637	MST PILE	718637	TANKS		N/A
9	MID047183077	3471	F006	202	1.5338	161610	161610	MST PILE	161610	TANKS	161610	LANDFILL
10	CTD001155703	3964	F006	202	1.4543	88677	88677	MST PILE	88677	TANKS		N/A
11	CHD005522429	2999	F006	202	1.3745	55315	55315	MST PILE	55315	OTHER SP		N/A
12	CHD005522429	2999	F006	202	1.3745	24473	24473	MST PILE	24473	OTHER SP		N/A
13	CHD0094810736	3471	F006	202	1.1791	23613	23613	MST PILE		N/A		N/A
14	CHD005522429	2999	F006	202	1.3745	10393	10393	MST PILE	10393	OTHER SP		N/A
15	VAD004334472	3471	F006	202	1.2132	4172	4172	MST PILE	4172	TK & OTR		N/A
16	MID0072589326	4953	F006	208	1.9952	1007376	1007376	MST PILE		N/A		N/A
17	XXX999999006	9900	F006	208	1.4625	406362	406362	MST PILE	406362	OTHER SP		N/A
18	CHD005522429	2999	F007	302	1.3745	27490	27490	MST PILE	27490	OTHER SP		N/A
19	MD0074923392	4953	F006	202	1.463	276899	276899	TK & MP	276899	TANKS		N/A
20	XXX999999006	9900	F008	208	1.4425	1257087	1257087	MST PILE	1257087	OTHER SP		N/A
21	VAD004334472	3471	F008	208	1.2132	69	69	MST PILE	69	TK & OTR		N/A
22	CHD005522429	2999	F008	302	1.3745	17433	17433	MST PILE	17433	OTHER SP		N/A
23	MID0090687964	2491	K001	202	1.275			SI & MP		N/A		N/A
24	XXX999999006	1477	K008	100	1.6257	23790	23790	MST PILE		N/A		N/A
25	PAD0063764898	2065	K024	502	1.4944	407133	407133	CH & MP		N/A		N/A
26	PAD0077478964	3312	K024	502	1.6545	15334	15334	MST PILE		N/A		N/A
27	TXD000750620	2900	K049	504	1.1688	1474683	1474683	TK & MP		N/A		N/A
28	XXX999999070	2911	K051	504	1.1395	8009296	8009296	SI & MP	8009296	NOT ACTD		N/A
29	MID009631194	4200	K051	504	1.494	747000	747000	MST PILE	747000	IMPOUND		N/A
30	COO067315390	2911	K052	504	1.1387	59990	59990	MST PILE		N/A		N/A
31	PAD0090824161	3312	K060	200	1.1387	1893695	1893695	MST PILE		N/A		N/A
32	XXX999999006	9900	K061	103	1.4485	1327100	1327100	MST PILE	1327100	OTHER SP		N/A
33	PAD002344315	3312	K061	103	1.3817	267120	267120	TK & MP		N/A		N/A
34	MSD0008158685	3312	K061	103	1.6545	101591	101591	SI & MP		N/A		N/A
35	PAD000433466	3312	K061	103	1.6545	101591	101591	MST PILE		N/A		N/A
36	PAD002395687	3312	K061	207	1.5818	6867328	6867328	MST PILE		N/A		N/A
37	CHD004228003	3312	K061	207	1.5339	652069	652069	MST PILE		N/A		N/A
38	CHD006280606	3312	K061	207	1.492	4025489	4025489	MST PILE		N/A		N/A
39	ILD0056623598	3312	K061	207	1.6552	4035055	4035055	MST PILE		N/A		N/A
40	INT190010991	3312	K061	207	2.2097	2694756	2694756	MST PILE		N/A		N/A
41	SCD0046503132	2879	K061	207	1.5316	1494244	1494244	MST PILE		N/A		N/A
42	MID009631194	4200	K061	207	1.494	1494000	1494000	MST PILE	1494000	IMPOUND		N/A
43	KYD0062951801	3312	K061	207	1.6545	570601	570601	MST PILE		N/A		N/A
44												

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = STORAGE IN WASTE PILES
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	TOTAL WEIGHT HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	PAD050917186	3312	K061	207	1.4108	471069	MST PILE	471069	TANKS	.	N/A
46	PAD990824161	3312	K061	207	1.1787	316237	MST PILE	316237	OTHER SP	.	N/A
47	PAD057629479	3312	K061	207	1.3617	167825	CH & MP	.	N/A	.	N/A
48	IND005447537	3312	K061	207	1.6552	92046	MST PILE	.	N/A	.	N/A
49	XXX999999006	9900	K062	201	1.4425	5923398	MST PILE	5923398	OTHER SP	.	N/A
50	XXX999999006	9900	K069	103	1.4425	6361425	MST PILE	6361425	OTHER SP	.	N/A
51	ALD0046481032	3341	K069	207	1.1529	1012303	MST PILE	.	N/A	1012303	LANDFILL
52	ALD004019642	2812	K071	200	1.3167	1867466	MST PILE	.	N/A	.	N/A
53	ALD008163308	2812	K071	200	1.2394	217349	SI & MP	.	N/A	.	N/A
54	PDD0074923392	4953	K086	500	1.463	293223	TK CH MP	186265	TANKS	.	N/A
55	ALD000622629	3312	K087	503	1.6545	12510	CH & MP	.	N/A	.	N/A
56	PAD077478964	3312	K087	503	1.6545	3632	MST PILE	.	N/A	.	N/A
57	ALD004019642	2812	K106	202	1.3167	70653	MST PILE	.	N/A	.	N/A
58	FLD000645481	2879	P050	0	2.8844	2737	CH & MP	.	N/A	.	N/A
59	CHD003320945	2865	U051	500	1.6568	48241	MST PILE	.	N/A	.	N/A
60	CHD004198784	2865	U051	510	1.7662	69705	MST PILE	.	N/A	.	N/A
61	CHD081594293	4953	U188	100	1.419	17305	MST PILE	17305	INCINER	.	N/A
62	ORD009020231	3625	X007	202	1.4112	341026	TK CH MP	.	N/A	.	N/A
CONSTITUENT CODE:	F006 F019					2864500	TK & MP	.	N/A	.	N/A
63	PAD003344315	3312	X040	202	1.3817	2864500	TK & MP	.	N/A	.	N/A
CONSTITUENT CODE:	F009 D002 D007 K062 F007										
PROCESS TOTAL:					62603797	79247477					

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = SURFACE IMPONDERMENT TREATMENT ONLY
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	TXD059685339	2911	D001	407	1.1103		N/A		IMPOND		N/A
2	CONSTITUENT CODE:	E305	E970 K050								
3	LAD000777201	4953	F006	201	1.8368	363541	N/A	363541	IMPOND	363541	LANDFILL
4	FL9170024567	9711	F006	202	1.1278	336656589	N/A	336656589	IMPOND		N/A
5	MD0009305665	3714	F006	202	1.7193	280864848	N/A	280864848	IMPOND		N/A
6	MD0096363194	4200	F006	202	1.494	3735000	MST PILE	3735000	IMPOND		N/A
7	MIT270019771	3369	F006	202	3.4572	410152	N/A	410152	IMPOND		N/A
8	TXD007357932	N/A	F006	202	1.7193	291937	N/A	291937	IMPOND		N/A
9	LAD000777201	4953	F006	202	1.8368	96450	CONTAINER	96450	IMPOND	96450	LANDFILL
10	ARD007037823	3621	F006	202	2.2097	9115	N/A	9115	IMPOND		N/A
11	ALD079127635	3400	F006	308	1.4463	11281	N/A	11281	TK & SI		N/A
12	SCD067802147	3600	F007	301	1.9178	146875430	N/A	146875430	IMPOND		N/A
13	PRD090510793	3613	F009	302	2.1631	26379	N/A	26379	IMPOND		N/A
14	ALD079127635	3400	F009	302	1.4463	706	TK & CN	166989	SI & OTR		N/A
15	MD0062011796	2816	K004	202	1.4765	166989	N/A	166989	IMPOND		N/A
16	LAD072606627	2900	K049	504	1.9593	1863725	N/A	1863725	TK & SI		N/A
17	CAD000894771	4953	K049	504	1.3682	1101624	N/A	243504	IMPOND		N/A
18	MD056024391	2911	K050	504	1.1804	1440	MST PILE	1440	IMPOND		N/A
19	MD096363194	4200	K051	504	1.494	747000	N/A	747000	IMPOND		N/A
20	CAD079089512	4953	K051	504	1.163	283658	N/A	283658	IMPOND		N/A
21	TXD000777201	4953	K052	506	1.4368	431426	N/A	431426	IMPOND		N/A
22	TXD005964598	2900	K052	506	1.4563	7281	N/A	7281	IMPOND		N/A
23	ALD000622464	4200	K061	207	1.2256	1874577	MST PILE	1494000	TK & SI		N/A
24	SCD003343316	4953	K071	200	1.494	1494000	N/A	2334798	IMPOND		N/A
25	MD0096363194	4200	K062	308	4.3237	244834	N/A	244834	IMPOND		N/A
26	PAD041250242	3900	K066	500	2.1631	7136	TANKS	4496781	IMPOND		N/A
27	TXD0006081101	2869	K103	301	1.104	4496781	N/A	4496781	IMPOND		N/A
28	MSD033417031	2869	K104	301	1.4243	24592800	N/A	24592800	TK & SI		N/A
29	GAD030035356	2879	P070	603	1.1227	3368100	N/A	3368100	IMPOND		N/A
30	XXX999999081	2865	U009	400	1.3063	3	N/A	3	IMPOND		N/A
31	PRD000040634	2900	U019	301	2.8154	3412	N/A	3412	IMPOND		N/A
32	LAD000777201	4953	U019	303	1.8368	337574	N/A	337574	IMPOND		N/A
33	LAD000777201	4953	U019	407	1.8368	300605	N/A	300605	IMPOND		N/A
34	TXD000036896	4953	U037	508	1.1442	727910	N/A	727910	IMPOND		N/A
35	SCD003349065	2869	U154	400	2.294	28940	N/A	28940	IMPOND		N/A
36	TXD000079527	2865	U188	510	1.1322	12681	N/A	12681	IMPOND		N/A
37	SCD003349065	2865	U188	510	2.294	73	N/A	73	IMPOND		N/A
38	XXX999999081	2865	U188	510	1.3063	3	N/A	3	IMPOND		N/A
39	PRD000040634	2900	U220	301	2.8154	2844	N/A	2844	IMPOND		N/A
40	TXD990797714	2911	X102	504	1.5414	14662099	NOT ACTD	14662099	IMPOND		N/A
41	CONSTITUENT CODE:	K050 K051									
42	CONSTITUENT CODE:	4700	X152	301	1.785	50728924	TANKS	50728924	TK & SI		N/A
43	CONSTITUENT CODE:	D001 D002 D003	U223 U240	U229							

FIRST THIRD LIST WASTE
 LAND DISPOSAL PROCESS = SURFACE IMPOUNDMENT TREATMENT ONLY
 DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
42	TX0001700006	2669	X160	301	1.1018	253414000	N/A	253414000	TK & SI	25	INJC MEL
CONSTITUENT CODE: K011 K013						<u>1.13E+09</u>		<u>1.13E+09</u>			
PROCESS TOTAL:											

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = SURFACE IMPROVEMENT STORAGE ONLY
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL VOLUME HAZARDOUS	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	CTD001140920	3471	F006	201	2.3837	1675979	IMPOUND	1675979	TANKS		N/A
2	CAD0050746775	3497	F006	201	3.4	518293	IMPOUND		N/A		N/A
3	CTC001154558	3471	F006	201	1.9139	405747	IMPOUND		N/A		N/A
4	CTD002496909	3471	F006	201	1.2769	161951	IMPOUND		N/A		N/A
5	HAD0048974349	3313	F006	201	2.0214	118389	IMPOUND		N/A		N/A
6	CTD001168558	3471	F006	201	1.3702	82972	IMPOUND		N/A		N/A
7	HAD0048974349	3313	F006	201	2.0214	53163	IMPOUND		N/A		N/A
8	HAD001197755	3471	F006	201	2.6052	7795	IMPOUND		N/A		N/A
9	CTD000842906	3400	F006	201	1.363	998	IMPOUND		N/A		N/A
10	CTD000844399	3724	F006	202	2.2097	5712883	IMPOUND	1073592	OTHER SP		N/A
11	NJ0002345247	3497	F006	202	1.3438	163878	SI & WP		N/A		N/A
12	HID005356860	3714	F006	202	1.2946	892093	IMPOUND		N/A		N/A
13	CTD001145341	3728	F006	202	1.3763	194570	IMPOUND		N/A		N/A
14	HID009124299	3428	F006	202	1.503	455687	IMPOUND		N/A		N/A
15	IND052959640	3714	F006	202	2.3859	116384	IMPOUND		N/A		N/A
16	VAD054039961	3714	F006	202	1.3763	80564	IMPOUND		N/A		N/A
17	KYD0081017667	3471	F006	202	2.0238	60694	IMPOUND		N/A		N/A
18	CTD001450006	3471	F006	202	1.032	46550	CH & SI	46550	TANKS		N/A
19	PRD090510793	3613	F006	202	2.1631	13191	IMPOUND		N/A		N/A
20	HAD0063913909	3611	F006	202	2.3859	7480	IMPOUND		N/A		N/A
21	PAD002350833	3471	F006	202	1.3512	2365	IMPOUND	2365	TANKS		N/A
22	ALD067111450	3471	F006	202	2.0238	1481	IMPOUND	1481	TANKS		N/A
23	CTD001166263	3471	F006	202	1.5834	950	IMPOUND		N/A		N/A
24	KYD0098950306	3622	F006	208	2.3723	1494549	IMPOUND		N/A		N/A
25	TND066709130	3479	F006	208	2.3859	430917	IMPOUND		N/A		N/A
26	NYD001827633	3678	F006	208	1.2727	33835	CH & SI		N/A		N/A
27	HID005422514	3471	F006	208	2.0238	65397	IMPOUND		N/A		N/A
28	SCD990704470	3471	F006	208	2.2097	539	IMPOUND		N/A		N/A
29	SCD005574967	3541	F006	302	1.4463	4558377	IMPOUND	4558377	TANKS	4558377	LANDFILL
30	VAD030341077	3714	F006	302	1.9139	382780	IMPOUND		N/A		N/A
31	NJD006980924	7391	F007	301	2.0107	8292127	IMPOUND	8292127	TANKS		N/A
32	SCD048372023	3729	F007	302	1.991	3295067	IMPOUND		N/A		N/A
33	AL3210C20027	7535	F007	302	1.1762	1905880	IMPOUND		N/A		N/A
34	VAD1170024813	9711	F007	302	1.3801	1138168	CH & SI	1138168	TANKS		N/A
35	CAD048645444	3600	F007	302	3.4	4080	IMPOUND		N/A		N/A
36	SCD048372023	3729	F008	208	1.991	125	IMPOUND		N/A		N/A
37	SCD048372023	3729	F009	302	1.991	3295067	IMPOUND		N/A		N/A
38	CAD048645444	3600	F009	302	3.4	40800	IMPOUND		N/A		N/A
39	ALD067111450	3471	F019	202	2.0238	2469	IMPOUND	2469	TANKS		N/A
40	ALD004023180	3353	F019	208	2.3797	52237	IMPOUND		N/A		N/A
41	ALD057226904	2491	K001	202	1.7411	14863050	CH & SI	5521	TANKS		N/A
42	LAD008171191	2491	K001	202	1.8124	3661	IMPOUND		N/A		N/A
43	SCD045690001	2491	K001	202	4.1531	527896	IMPOUND		N/A		N/A
44	LAD980621379	2491	K001	202	1.7411	522330	CH & SI	67407	OTHER SP		N/A

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = SURFACE IMPOUNDMENT STORAGE ONLY
DATA SOURCE: RIA MAIL SURVEY 1SD GENERAL VERSION #3

QDS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	TOTAL WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	ALD008185407	2491	K001	202	1.0124	153510	442	IMPOUND	.	N/A	.	N/A
46	TXD008077356	N/A	K001	202	1.5115	136133	136133	IMPOUND	.	N/A	.	N/A
47	TXD000778621	2491	K001	202	3.943	50009	50009	IMPOUND	.	N/A	.	N/A
48	GAD008212409	2491	K001	202	4.1531	44853	44853	IMPOUND	.	N/A	.	N/A
49	ALD004009403	2491	K001	202	2.2069	44138	942	IMPOUND	.	N/A	23348	LAND APL
50	MOD007129406	2491	K001	202	1.5414	23659	311	IMPOUND	.	N/A	.	N/A
51	MSD008208866	2491	K001	202	1.0124	9424	9424	IMPOUND	.	N/A	.	N/A
52	SCD003353026	2491	K001	202	2.2069	7846	7846	IMPOUND	.	N/A	.	N/A
53	NC057036449	2491	K001	202	3.943	3848	3848	IMPOUND	.	N/A	.	N/A
54	VAD003125770	2491	K001	202	1.7411	2972	2972	IMPOUND	.	N/A	.	N/A
55	WVD003080959	2491	K001	202	1.0124	221	221	IMPOUND	.	N/A	.	N/A
56	KYD006383392	2491	K001	202	1.0124	134	134	IMPOUND	.	N/A	.	N/A
57	WID006179493	2491	K001	202	1.0124	67	67	IMPOUND	.	N/A	.	N/A
58	ALD058221326	2491	K001	202	1.0124	43	43	IMPOUND	.	N/A	.	N/A
59	ARD049658628	2491	K001	202	1.0124	22	22	IMPOUND	.	N/A	.	N/A
60	NC0003173358	2491	K001	202	1.7411	10	10	IMPOUND	.	N/A	.	N/A
61	HID0990687964	2491	K001	202	1.275	.	.	IMPOUND	.	N/A	.	N/A
62	MS055280648	2491	K001	202	1.7411	98338617	98338617	IMPOUND	OTHER SP	OTHER SP	98338617	INJC MEL
63	OH0042157644	2869	K013	301	1.1101	118550560	118550560	IMPOUND	OTHER SP	OTHER SP	118550560	INJC MEL
64	OH0042157644	2869	K013	301	1.1101	1759915	1759915	IMPOUND	OTHER SP	OTHER SP	1759915	INJC MEL
65	OH0042157644	2869	K014	500	1.177	271284	271284	IMPOUND	TANKS	TANKS	212434	N/A
66	OH0005108477	2865	K022	500	1.177	84057	84057	IMPOUND	N/A	N/A	84057	LANDFILL
67	VAI210020730	2892	K044	202	1.1643	127451604	11257578	IMPOUND	N/A	N/A	.	N/A
68	MYD00706447	2911	K048	504	1.3256	8707172	8707172	IMPOUND	TANKS	TANKS	2929802	LAND APL
69	ARD000021998	2911	K048	504	1.3222	575805	575805	IMPOUND	N/A	N/A	.	N/A
70	LAD056024391	2911	K048	504	1.1804	261291	261291	IMPOUND	N/A	N/A	261291	LAND APL
71	IND044908663	2911	K048	504	2.235	184251	184251	IMPOUND	N/A	N/A	.	N/A
72	TXD064647376	2911	K048	504	2.6865	48948	48948	IMPOUND	N/A	N/A	8271	LAND APL
73	ARD990869737	2900	K048	504	1.5414	8271	8271	IMPOUND	N/A	N/A	.	N/A
74	LAD081999724	2900	K048	504	2.235	444819	444819	IMPOUND	N/A	N/A	.	N/A
75	TXD064647376	2911	K049	504	2.235	545	545	IMPOUND	N/A	N/A	.	N/A
76	MYD051843613	2911	K050	504	2.3524	13540645	8917908	IMPOUND	OTHER SP	OTHER SP	13540645	LANDFILL
77	XXX999999116	N/A	K051	504	1.1395	8009296	8009296	IMPOUND	NOT ACTD	NOT ACTD	.	N/A
78	XXX999999070	2911	K051	504	1.1804	1295561	1295561	IMPOUND	N/A	N/A	.	N/A
79	LAD056024391	2911	K051	504	1.3256	736517	307151	IMPOUND	TANKS	TANKS	50761	N/A
80	UTD000826362	2911	K051	504	2.235	413202	413202	IMPOUND	N/A	N/A	.	N/A
81	TXD064647376	2911	K051	504	1.109	225587	225587	IMPOUND	N/A	N/A	225587	LAND APL
82	IND044908663	2911	K051	504	2.6865	196574	196574	IMPOUND	N/A	N/A	.	N/A
83	MYD004873009	2900	K051	504	2.235	127558	127558	IMPOUND	N/A	N/A	.	N/A
84	MYD051843613	2911	K051	504	1.5414	29324	29324	IMPOUND	N/A	N/A	29324	LAND APL
85	LAD081999724	2900	K051	504	2.3524	19508	12778	IMPOUND	OTHER SP	OTHER SP	19508	LANDFILL
86	XXX999999116	N/A	K052	506	2.3524	272387	100885	IMPOUND	N/A	N/A	.	N/A
87	MSD008158685	3312	K061	103	1.6545	31912317	57167	IMPOUND	TANKS	TANKS	.	N/A
88	ILD0005109525	3496	K062	308	1.7219	.	.	IMPOUND	.	.	.	.

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = SURFACE IMPOUNDMENT STORAGE ONLY
DATA SOURCE: RIA MAIL SURVEY 1SD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
89	MID096963194	4200	K062	308	1.494	2980000	IMPOUND	2980000	OTHER SP		N/A
90	MID006141402	3310	K062	308	2.3037	2024238	IMPOUND	2024238	TANKS		N/A
91	MID057002602	5090	K062	308	1.2999	1260565	IMPOUND	1260565	NOT ACTD		N/A
92	IND005447537	3312	K062	308	1.6552	73878	IMPOUND		N/A		N/A
93	ALD008163308	2812	K071	200	1.2394	293223	SI & WP		N/A		N/A
94	ALD008168708	2812	K071	200	1.2394	2720	CN & SI		N/A		N/A
95	PAD990824161	3312	K087	503	1.1787	143744	IMPOUND		N/A		N/A
96	PAD000427906	3300	K087	503	1.439	26324	IMPOUND		N/A		N/A
97	LAD008175390	2819	P030	610	0.1397	77873422	IMPOUND	77873422	OTHER SP	77873422	INJC MEL
98	TND056491863	2879	P039	610	1.3996		SI, SUMP		N/A		N/A
99	LAD008175390	2819	P063	308	1.1397	14975658	IMPOUND	14975658	OTHER SP	14975658	INJC MEL
100	LAD008175390	2819	P069	400	1.1397	20965921	IMPOUND	20965921	OTHER SP	20965921	INJC MEL
101	OKD079981874	3714	P097	0	2.3723	14234	IMPOUND		N/A		N/A
102	LAD008175390	2819	U007	400	1.1397	11980526	IMPOUND		OTHER SP	11980526	INJC MEL
103	LAD008175390	2819	U009	400	1.1397	29951316	IMPOUND	29951316	OTHER SP	29951316	INJC MEL
104	LAD008171191	2491	U051	510	1.8124	102489	IMPOUND		N/A		N/A
105	ALD008185407	2491	U051	510	1.8124	366	IMPOUND		N/A		N/A
106	TXD084972777	2822	U074	301	1.3887	516190	IMPOUND		N/A		N/A
107	TXD096618855	2869	U077	301	2.6992		CN & SI		N/A		N/A
108	TXD096618855	2869	U115	301	2.6992		CN & SI		N/A		N/A
109	TXD008113441	2869	U122	301	1.1977	195721729	IMPOUND	195721729	IMPOUND		N/A
110	TXD096618855	2869	U122	301	2.6992		CN & SI		N/A		N/A
111	TXD096618855	2869	U188	301	2.6992		CN & SI		N/A		N/A
112	XXX999999118	2869	U188	303	1.6864	65197754	IMPOUND	65197754	N/A		N/A
113	KSD007233422	2900	X102	504	1.3701	368354	IMPOUND	368354	TANKS	167005	LAND APL
CONSTITUENT CODE:											
114	ARD000021998	2911	X107	504	1.3222	193492	IMPOUND	193492	N/A		N/A
115	CAD000072769	2900	NO EPA CODE	301	1.1165	250792070	IMPOUND	250792070	TANKS	250792070	INJC MEL
116	XXX999999116	U002	U032	U134	U135	U151	U080	U154	OTHER SP	146603	LANDFILL
CONSTITUENT CODE:											
PROCESS TOTAL:											
						1.14E+09					
						987423419					

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = TREATMENT AND STORAGE IN SI
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	CT0001160137	3496	F006	202	2.4747	26459050	IMPOND	41575	IMPOND	26459050	TK & SI
2	PAD003652020	3624	F006	202	2.294	17277490	IMPOND	17277490	TK & SI	17277490	TK & SI
3	TND003302801	3573	F006	202	2.6	1749610	CN & SI	1710927	IMPOND	1710927	IMPOND
4	CT0001153040	3471	F006	202	2.0284	215010	CN & SI	65720	IMPOND	215010	TK & SI
5	PAD002434747	3400	F006	202	2.3723	147083	IMPOND	147083	IMPOND	142338	IMPOND
6	SCD0067002147	3600	F006	202	2.9178	130972	IMPOND	130972	IMPOND	37420	IMPOND
7	CHD0020273019	4953	F006	202	1.1665	103607	IMPOND	103607	IMPOND	103607	IMPOND
8	CHD0004208270	3822	F006	202	3.4	52244	IMPOND	52244	IMPOND	52244	IMPOND
9	CHD0000817346	3714	F006	202	2.0214	49302	IMPOND	12326	IMPOND	12326	IMPOND
10	CHD0004288288	3822	F006	202	2.905	30578	IMPOND	30578	IMPOND	30578	IMPOND
11	CT0075397992	3471	F006	202	1.7193	29228	IMPOND	29228	IMPOND	29228	TK & SI
12	MAD001189121	3471	F006	202	1.4035	22252	IMPOND	22252	IMPOND	22252	IMPOND
13	SCD0065053217	3552	F006	202	1.2027	3014	IMPOND	3014	IMPOND	3014	TK & SI
14	CAD0040645444	3600	F006	208	3.4	2042475	IMPOND	2042475	IMPOND	1633979	IMPOND
15	PAD003050846	3600	F006	208	1.9178	159973	IMPOND	159973	IMPOND	159973	IMPOND
16	IDD0009066481	3482	F006	208	1.76	21707	IMPOND	10854	IMPOND	21707	TK & SI
17	CA7170024775	3479	F006	208	2.1464	471161	IMPOND	471161	IMPOND	282696	IMPOND
18	MSD000440775	3471	F006	301	1.7193	111754500	IMPOND	111754500	IMPOND	323750	IMPOND
19	KSD070902952	4953	F006	301	1.1348	725371	IMPOND	323758	IMPOND	323758	IMPOND
20	TND0095050019	3471	F007	301	4.3237	48487662	IMPOND	48487662	IMPOND	48487662	IMPOND
21	MIT270010044	3711	F007	302	1.9178	2043305	IMPOND	2043305	IMPOND	1634312	IMPOND
22	CAD0040645444	3600	F008	208	3.4	217	IMPOND	67	IMPOND	217	TK & SI
23	IDD009066481	3482	F008	208	1.76	217	IMPOND	67	IMPOND	217	IMPOND
24	MIT270010044	3711	F008	208	1.9178	2172	IMPOND	869	IMPOND	2172	TK & SI
25	IDD009066481	3482	F009	302	1.76	32325460	IMPOND	32325460	IMPOND	32325460	IMPOND
26	TND0095050019	3471	F009	309	4.3237	735029	IMPOND	735029	IMPOND	735029	IMPOND
27	PAD003026663	3452	F019	202	4.3237	997948	CN & SI	997948	IMPOND	4671	TK & SI
28	OK0010327948	2491	K001	202	1.7411	3414000	IMPOND	3414000	IMPOND	3414000	IMPOND
29	TX6213820529	2892	K044	202	1.4225	345439	IMPOND	345439	IMPOND	345439	TK & SI
30	MO4213820489	3482	K044	202	1.1431	1268562	IMPOND	692273	IMPOND	1268562	TK & SI
31	MO4213820489	3482	K046	202	1.1431	10854	IMPOND	5210	IMPOND	10854	TK & SI
32	IDD009066481	3482	K046	202	1.76	10854	IMPOND	5210	IMPOND	49249	IMPOND
33	UTD0000826370	2911	K049	504	1.5414	49249	IMPOND	49249	IMPOND	49249	IMPOND
34	UTD000826370	2911	K051	504	1.5414	49249	IMPOND	49249	IMPOND	49249	IMPOND
35	CHT400012316	2900	K052	506	3.943	124228	CN & SI	124228	IMPOND	124228	SI & OTR
36	PAD003053758	3315	K062	308	2.0284	19294538	IMPOND	19294538	IMPOND	19294538	IMPOND
37	CHD0020273019	4953	K062	308	1.1645	11611846	IMPOND	11611846	IMPOND	11611846	IMPOND
38	PAD003053758	3315	K062	308	2.0284	372534	IMPOND	372534	IMPOND	372534	IMPOND
39	CAD0059277137	3315	K062	308	2.0284	61942	IMPOND	61942	IMPOND	61942	IMPOND
40	PAD004397683	3532	K062	308	2.0284	3462	IMPOND	3462	IMPOND	3462	IMPOND
41	NCD991276631	2812	K106	202	1.2776	166965	IMPOND	176060	IMPOND	166965	TK & SI
42	CAD0059277137	3315	P030	0	2.905	1158	IMPOND	1158	IMPOND	1158	IMPOND
43	LAD0008213191	2865	U012	400	1.1135	95	IMPOND	95	IMPOND	95	TK & SI
44	LAD0008213191	2865	U019	400	1.1135	122	IMPOND	122	IMPOND	122	TK & SI

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = TREATMENT AND STORAGE IN SI
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	LAD000213191	2865	U037	400	1.1135	177	177	CN & SI	177	TK & SI	177	INJC MEL
46	LAD000213191	2865	U105	510	1.1135	204	204	CN & SI	204	TK & SI	204	INJC MEL
47	TXD079300955	2899	U133	603	3.4	14614	2720	IMPOND	2720	IMPOND		N/A
48	TXD000016125	9661	U133	603	1.7193	31	31	IMPOND	31	IMPOND		N/A
49	CAD059277137	3315	U134	308	2.985	4224	4224	IMPOND	4224	IMPOND		N/A
50	MID002931220	2821	U154	400	2.2241	46821	46821	CN & SI	2002	IMPOND		N/A
51	MID002931220	2821	U158	510	2.2241	13	13	IMPOND	13	IMPOND		N/A
52	MID002931220	2821	U159	400	2.2241	543	543	CN & SI	1112	IMPOND		N/A
53	MID002931220	2821	U220	400	2.2241	19528	19528	CN & SI	334	IMPOND		N/A
54	LAD000213191	2865	U220	400	1.1135	41	41	CN & SI	41	TK & SI	41	INJC MEL
55	LAD000213191	2865	U221	510	1.1135	95	95	CN & SI	95	TK & SI	95	INJC MEL
56	TXD079300955	2899	U226	0	3.4	925	170	IMPOND	170	IMPOND		N/A
57	IND005400942	3714	X024	202	2.5677	985852	985852	IMPOND	985852	IMPOND		N/A
CONSTITUENT CODE:		D007 F006				16612054	16612054	CN & SI	16461953	IMPOND		N/A
58	NJD002305730	2865	X066	301	1.1249							
CONSTITUENT CODE:		K069 D006 157X				919650	12262	IMPOND	919650	IMPOND		N/A
59	VAD007972482	2491	X174	302	1.2262							
CONSTITUENT CODE:		K001 U051										
PROCESS TOTAL:						303418090	273323010		301005259			

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = SURFACE IMPOUNDMENT DISPOSAL ONLY
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	NYD052780392	3471	F006	202	1.2819	15607290		N/A	15607290	TANKS	15510678	IMPOUND
2	THD069080513	3471	F006	202	3.4	1030781		N/A		N/A	131026	IMPOUND
3	PAD004835146	4953	F006	202	1.2185	624110	624110	NOT ACTD	624110	TANKS	624110	IMPOUND
4	CAD000633164	4953	F006	202	1.2104	51664		N/A		N/A	51664	SI & LA
5	CTD001453216	3482	F006	202	2.3859	29		N/A		N/A	29	IMPOUND
6	PAD0041250242	3900	F006	312	2.1638	123729		N/A		N/A	123729	IMPOUND
7	THD069080513	3471	F008	208	3.4	11611		N/A		N/A	1659	IMPOUND
8	CTD001453216	3482	F008	208	2.3859	29		N/A		N/A	29	IMPOUND
9	THD069080513	3471	F009	302	3.4	114441		N/A		N/A	14926	IMPOUND
10	CTD001453216	3482	K046	202	2.3859	5091861		N/A		N/A	5091861	IMPOUND
11	UTD070546445	2892	K047	301	1.8124	460172		N/A		N/A	460172	IMPOUND
12	MYD000712463	2911	K048	301	4.1531	3.47E+09		N/A		N/A	1121834	SI & LA
13	CAD000633164	4953	K048	504	1.2104	1121834		N/A		N/A	2336663	IMPOUND
14	CAD000060012	4953	K049	504	1.2104	2336663		N/A		N/A	935132	IMPOUND
15	TXD980626774	2900	K049	504	1.3693	935132		N/A		N/A	421039	SI & LA
16	OKD007233836	2900	K049	504	1.1246	421039		N/A		N/A	9351	IMPOUND
17	TXD980626774	2900	K050	504	1.3693	9351		N/A		N/A	24067	IMPOUND
18	KSD007138605	2900	K051	504	1.6439	12000470		N/A		N/A	1859884	SI & LA
19	CAD000633164	4953	K051	504	1.2104	1859884		N/A		N/A	730374	SI & LA
20	CAD000060012	4953	K051	504	1.2104	730374		N/A		N/A	430914	SI & LA
21	OKD007233836	2900	K051	504	1.1246	430914		N/A		N/A	321898	IMPOUND
22	NYD002134680	3312	K060	200	1.4829	321898	321898	TANKS		N/A	258278	IMPOUND
23	PAD002375376	3314	K060	500	1.4506	258278		N/A	4725403	TANKS	4725403	IMPOUND
24	PAD004835146	4953	K061	103	1.2185	4725403	4725403	NOT ACTD	1664293	TANKS	1664293	IMPOUND
25	PAD004835146	4953	K062	201	1.2185	1664293	1664293	NOT ACTD	42142273	TANKS	42142273	IMPOUND
26	PAD004835146	4953	K062	308	1.2185	42142273	42142273	NOT ACTD		N/A	98575	IMPOUND
27	MOO099228784	3498	K062	308	3.943	98575		N/A		N/A	~~98575~~	~~SI & LA~~
28	PAD073613663	3341	K069	207	1.5413	9022245		N/A		N/A	552716	IMPOUND
29	CAD040690737	2812	K071	200	1.2527	552716		N/A		N/A	3168162	IMPOUND
30	IND005444062	3312	K087	503	1.0728	3168162		N/A		N/A	664092	IMPOUND
31	PAD002375376	3314	K087	503	1.4506	664092		N/A		N/A	9090	IMPOUND
32	KYD006370159	2819	K106	202	1.4907	9090		N/A	29800	TANKS	29800	IMPOUND
33	OKD007158454	3339	P010	308	3.4057	29800		N/A		N/A	73030495	IMPOUND
34	TXD008113441	2869	U122	301	1.1977	73030495		N/A		N/A	4363	IMPOUND
35	KYD006370159	2819	U151	209	1.4907	4363		N/A		N/A	6130	IMPOUND
36	OKD007158454	3339	U154	400	3.4057	6130		N/A		N/A	273399	IMPOUND
37	CTD060008307	3356	X190	202	1.9339	273399		NOT ACTD		N/A		
CCONSTITUENT CODE: F006 F008 F009												
PROCESS TOTAL:						3.65E+09						

156828108

* - Waste declared nonhazardous
** - Waste no longer generated

FIRST THIRD LIST WASTE

LAND DISPOSAL PROCESS = TREATMENT AND DISPOSAL IN SI
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	ALD000622464	4953	F066	202	1.2258	3112934	.	N/A	1072725	IMPOUND	3112934	LF & SI
2	LA0072606627	2900	K052	506	1.9593	621241	.	N/A	621241	IMPOUND	621241	IMPOUND
3	IND005444062	3312	K062	308	1.0728	28432343	.	N/A	12081822	TK & SI	16350520	SI & LA
4	TX000737278	2812	K073	400	1.3128	14924548	.	N/A	14024548	IMPOUND	~~36090~~	~~IMPOUND~~
5	MT0065567968	211	P123	603	3.3417	36090	.	N/A	9702963	IMPOUND	36090	IMPOUND
6	TX0990709685	3691	U122	300	2.3837	89627	.	N/A	89627	IMPOUND	89627	IMPOUND
7	TX0990709685	3691	U188	300	2.3837	89627	.	N/A	89627	IMPOUND	89627	IMPOUND
PROCESS TOTAL:						46406411			37682553		20300040	

* - Waste no longer generated

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = DISPOSAL AND STORAGE IN SIX
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	ALD050166750	3600	F006	202	1.7356	17356	17356	IMPOUND	.	N/A	17356	IMPOUND
2	NED068645696	3479	K062	308	3.4	1700000	1700000	IMPOUND	.	N/A	1700000	IMPOUND
3	NJD079303020	2812	K071	200	1.2044	470598	470598	IMPOUND	.	N/A	470598	IMPOUND
4	NJD079303020	2812	K106	202	1.2044	24970	24970	IMPOUND	.	N/A	24970	IMPOUND
PROCESS TOTAL:						2212923	2212923				2212923	

FIRST THIRD LIST WASTE
LAND DISPOSAL PROCESS = TREATMENT, STORAGE, AND DISPOSAL IN SI
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 13

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	MSD007037278	3465	F006	202	2.2097	57010260	247486	IMPOUND	57010260	IMPOUND	57010260	IMPOUND
2	OKD053128492	2491	K001	202	1.5414	623	623	IMPOUND	623	IMPOUND	623	IMPOUND
3	KSD087426193	2892	K044	202	1.6612	3402	3402	IMPOUND	3402	IMPOUND	3402	IMPOUND
4	UTD000826370	2911	K048	504	1.5414	9111931	579341	IMPOUND	9111931	IMPOUND	8532589	IMPOUND
5	TXD046210645	2900	U154	400	1.5414	1504	1504	IMPOUND	1504	IMPOUND	1504	IMPOUND
6	NJD002349751	N/A	NO EPA CODE	0	1.3504	1647	1647	CN & SI	1647	IMPOUND	1647	IMPOUND
CONSTITUENT CODE: D003 P030												
PROCESS TOTAL:						66129367	834005		66129367		65550026	

ATTACHMENT 2

Computer Printout of the Volume
of Land Disposed First Third
Wastes Affected by the Proposed Rule
(RIA Mail Survey)

NOTE: COPYRIGHT (C) 1984, 1986 SAS INSTITUTE INC., CARY, N.C. 27511, U.S.A.
 NOTE: THE JOB HUM10 HAS BEEN RUN UNDER RELEASE 5.16 OF SAS AT ENVIRONMENTAL PROTECTION AGENCY (01189001).

NOTE: CPUID VERSION = 31 SERIAL = 072402 MODEL = 3090
 CPUID VERSION = 31 SERIAL = 172402 MODEL = 3090
 CPUID VERSION = 31 SERIAL = 272402 MODEL = 3090

NOTE: SAS OPTIONS SPECIFIED ARE:

SORT=4

1 PROC EXPLODE
 2 PARMCARDS
 3 L
 4 DATA REQUEST #34
 5 C0273
 6
 7

00000130
 00000140
 00000150
 00000160
 00000170
 00000180
 00000190

NOTE: EXPLODE IS NOT SUPPORTED BY THE AUTHOR OR BY SAS INSTITUTE INC.
 NOTE: THE PROCEDURE EXPLODE USED 0.10 SECONDS AND 104K.

PROC FORMAT

9 VALUE \$SI
 10 1 = 'DISPOSAL IN LANDFILLS'
 11 2 = 'DISPOSAL BY LAND APPLICATION'
 12 3 = 'STORAGE IN WASTE PILES'
 13 100 = 'SURFACE IMPROVEMENT DISPOSAL ONLY'
 14 010 = 'SURFACE IMPROVEMENT STORAGE ONLY'
 15 001 = 'SURFACE IMPROVEMENT TREATMENT ONLY'
 16 110 = 'DISPOSAL AND STORAGE IN SI'
 17 101 = 'TREATMENT AND DISPOSAL IN SI'
 18 011 = 'TREATMENT AND STORAGE IN SI'
 19 111 = 'TREATMENT, STORAGE, AND DISPOSAL IN SI'

00000200
 00000210
 00000220
 00000230
 00000240
 00000250
 00000260
 00000270
 00000280
 00000290
 00000300
 00000310

NOTE: FORMAT \$SI HAS BEEN OUTPUT.

20 204 = 'DISPOSAL BY INJECTION WELLS'

VALUE T17JA

21 .C = 'OTHER NS'
 22 .B = 'DK'
 23 .A = 'NOT ACTD'
 24 = 'N/A'
 25 1 = 'INJC HEL'
 26 2 = 'LANDFILL'
 27 3 = 'IMPOUND'
 28 4 = 'LAND APPL'
 29 5 = 'OTHER SP'
 30 6 = 'SI & LA'
 31 7 = 'IF & SI'
 32 8 = 'IM & SI'
 33 9 = 'IH & LA'
 34 10 = 'IF & LA'
 35 11 = 'IH & LF'

00000320
 00000330
 00000340
 00000350
 00000360
 00000370
 00000380
 00000390
 00000400
 00000410
 00000420
 00000430
 00000440
 00000450
 00000460
 00000470

NOTE: FORMAT T17JA HAS BEEN OUTPUT.

36

37

38

NOTE: THE PROCEDURE FORMAT USED 0.09 SECONDS AND 104K.

39 DATA STCCODE
 40 SET T63.AL((KEEP=FCID T7A T7B) T63.XALL(KEEP=FCID T7A T7B READ=XXXXX))100000520

00000510
 00000520

```

2 SASR1 LOG OS SAS 5.16 NVS/NA JRM HHHH0 SLP C073 FROC SAS
41 BY FCID; 0000530
42 IF 17A/100 = INH(17A/100) AND INH(17A/100) = INH(17B/100) THEN 0000540
43 17A = 17B; 0000550
44 DROP 17B; 0000560
45 0000570

```

NOTE: MISSING VALUES WERE GENERATED AS A RESULT OF PERFORMING
AN OPERATION ON MISSING VALUES.
EACH PLACE IS GIVEN BY: (NUMBER OF TIMES) AT (LINE):(COLUMN).

787 AT 42:6

NOTE: DATA SET WORK.SICCODE HAS 1462 OBSERVATIONS AND 2 VARIABLES. 1956 OBS/TRK.
NOTE: THE DATA STATEMENT USED 0.48 SECONDS AND 156K.

```

46 DATA T17; 0000500
47 SET 163.T17 163.XT17 (READ=XXXXXX); 0000590
48 0000600

```

NOTE: DATA SET WORK.T17 HAS 6465 OBSERVATIONS AND 14 VARIABLES. 40% OBS/TRK.
NOTE: THE DATA STATEMENT USED 0.33 SECONDS AND 120K.

```

49 DATA T17R; 0000610
50 SET 163.T17R 163.XT17R (READ=XXXXXX); 0000620
51 0000630

```

NOTE: DATA SET WORK.T17R HAS 6464 OBSERVATIONS AND 28 VARIABLES. 202 OBS/TRK.
NOTE: THE DATA STATEMENT USED 0.36 SECONDS AND 116K.

```

52 DATA T17; 0000640
53 MERGE T17 T17R; 0000650
54 BY FCID SEQNO; 0000660
55 0000670

```

NOTE: DATA SET WORK.T17 HAS 6465 OBSERVATIONS AND 39 VARIABLES. 148 OBS/TRK.
NOTE: THE DATA STATEMENT USED 0.66 SECONDS AND 168K.

```

56 DATA T17; 0000680
57 MERGE T17(III=A) SICCODE; 0000690
58 BY FCID; 0000700
59 IF A1 0000710
60 IF T17D > 0 AND T17C LE 0 THEN T17C = T17A; 0000720
61 IF T17G > 0 AND T17F LE 0 THEN T17F = T17A; 0000730
62 IF T17J > 0 AND T17I LE 0 THEN T17I = T17A; 0000740
63 T17A = T17A * THGHT; 0000750
64 T17C = T17C * THGHT; 0000760
65 T17F = T17F * THGHT; 0000770
66 T17I = T17I * THGHT; 0000780
67 0000790

```

```

68 0000800
69 0000810
70 /*SOLVENTS ARE ALL WASTES WITH WASTE CODES F001 THROUGH F005 */ 0000820
71 /*AND ANY X CODES THAT CONTAIN ONE OF THESE F CODES */ 0000830
72 IF T17M = 'F001' OR T17M = 'F002' OR T17M = 'F003' OR T17M = 'F004' 0000840
73 OR T17M = 'F005' 0000850
74 OR T17M = 'X001' OR T17M = 'X002' OR T17M = 'X003' OR T17M = 'X004' 0000860
75 OR T17M = 'X006' OR T17M = 'X013' OR T17M = 'X014' OR T17M = 'X018' 0000870
76 OR T17M = 'X021' OR T17M = 'X022' OR T17M = 'X033' OR T17M = 'X036' 0000880

```

A-33

A-34

PROC SAS

STEP C0273

RVS/XA JOB HUH18

SAS(R) LOG OS SAS 5.16

```

183      T17D = 15 OR T17D = 16 OR T17D = 17 THEN DO;
184      PROC155 = 3;
185      OUTPUT;
186      END;
187
188      /* DISPOSAL BY INJECTION WELLS */
189      IF T17J = 1 OR T17J = 6 OR T17J = 9 OR T17J = 11 THEN DO;
190      PROCESS = '204';
191      OUTPUT;
192      END;
193
194      FORMAT T17J T17JA. PROCESS $S1. T17A T17C T17F T17I 9.0;
195      LABEL ICID = 'FACILITY ID',
196      T17A = 'PRIMARY_SIC_CODE',
197      T17M = 'WASTE_CODE',
198      T17N = 'TOTAL_VOLUME', HANDLED,
199      T17I = 'DISPOSAL_VOLUME',
200      T17C = 'STORAGE_VOLUME',
201      T17F = 'TREATMENT_VOLUME',
202      WIGHT = 'WEIGHT',
203      T17D = 'PHYSICAL_FORM',
204      T17G = 'TREATMENT_METHOD',
205      T17O = 'STORAGE_METHOD',
206      T17J = 'DISPOSAL_METHOD',
207      ;
208
209      DISP = '0'; STORE = '0'; TREAT = '0';
210      IF T17J = 3 OR T17J = 6 OR T17J = 7 OR T17J = 9 THEN DISP = '1';
211      IF T17D = 3 OR T17D = 7 OR T17D = 10 OR T17D = 11 OR T17D = 12
212      OR T17D = 13 OR T17D = 15 OR T17D = 17 THEN STORE = '1';
213      IF T17G = 2 OR T17G = 5 OR T17G = 7 OR T17G = 10 OR T17G = 11 OR
214      T17G = 12 THEN TREAT = '1';
215      IF DISP = '1' OR STORE = '1' OR TREAT = '1' THEN DO;
216      PROCESS = DISPISTORETREAT;
217      OUTPUT;
218      END;
219
220      ;
221
222      DATA FIRST3RD;
223      SET;
224      IF FIRST3RD = 1 THEN OUTPUT FIRST3RD;
225
226      ;
227
228      ;
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NOTE: DATA SET WORK.T17 HAS 364 OBSERVATIONS AND 47 VARIABLES. 132 OBS/TRK.
 NOTE: THE DATA STATEMENT USED 0.17 SECONDS AND 124K.

00002340
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 00002360
 00002370

NOTE: DATA SET WORK.FIRST3RD HAS 255 OBSERVATIONS AND 47 VARIABLES. 132 OBS/TRK.
 NOTE: THE DATA STATEMENT USED 0.06 SECONDS AND 120K.

00002380
 00002390
 00002400

NOTE: DATA SET WORK.FIRST3RD HAS 255 OBSERVATIONS AND 47 VARIABLES. 132 OBS/TRK.
 NOTE: THE PROCEDURE SORT USED 0.33 SECONDS AND 616K.

```

229 SASIR) LOG   US SAS 5.16      MVS/XA JOB HUN18      STEP C0273      PROC SAS
230 DATA _NULL_
231   SET FIRST3PD;
232   TITLE1 'FIRST THIRD LIST WASTES';
233   RETAIN IV TS IT ID OBS PCOL;
234   FILE PRINT;
235   HEADER = H;
236   LINESLEFT = LL;
237   BY PROCESS;
238   COL1 = 1;
239   COL2 = COL1 + 9;
240   COL3 = COL2 + 12;
241   COL4 = COL3 + 9;
242   COL5 = COL4 + 7;
243   COL6 = COL5 + 10;
244   COL7 = COL6 + 7;
245   COL8 = COL7 + 9;
246   COL9 = COL8 + 7;
247   COL10 = COL9 + 10;
248   COL11 = COL10 + 11;
249   COL12 = COL11 + 11;
250   COL13 = COL12 + 10;
251   COL14 = COL13 + 10;
252
253   IF FIRST.PROCESS THEN DO;
254     ODS = 1; IV = 0; PCOL = 0;
255     TS = 0; IT = 0; ID = 0;
256     NEWPAGE = 'Y';
257     SELECT (PROCESS);
258       WHEN ('1') PCOL = 44;
259       WHEN ('2') PCOL = 41;
260       WHEN ('3') PCOL = 44;
261       WHEN ('204') PCOL = 41;
262       WHEN ('001') PCOL = 38;
263       WHEN ('010') PCOL = 39;
264       WHEN ('011') PCOL = 41;
265       WHEN ('100') PCOL = 38;
266       WHEN ('101') PCOL = 41;
267       WHEN ('110') PCOL = 42;
268       WHEN ('111') PCOL = 36;
269       OTHERWISE PUT 'ERROR ON PROCESS';
270     END;
271   END;
272
273   IF LL < 7 OR NEWPAGE = 'Y' THEN DO;
274     IF _N_ > 1 THEN PUT _PAGE_1;
275     END;
276
277   PUT SCOL1 OBS
278     SCOL1.6 FCID
279     SCOL3.3 17A
280     SCOL4 117M
281     SCOL5.5 117ZD 3.0
282     SCOL6 INCHT
283     SCOL7.3 117A 9.0
284     SCOL9 117C 9.0
285     SCOL10.2 117D
286     SCOL11.117E 9.0
287     SCOL12.117G

```

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287      @COL13 1171 9.0
288      @COL14+1 117J
289
290      IF 117CC1 NE ' ' OR 117CC2 NE ' ' OR 117CC3 NE ' ' OR 117CC4 NE ' '
291      OR 117CC5 NE ' ' OR 117CC6 NE ' ' OR 117CC7 NE ' '
292      OR 117CC8 NE ' ' OR 117CC9 NE ' ' OR 117CC10 NE ' ' THEN
293      PUT @COL11 'CONSISTENT CODE: '
294      @COL13 117C1
295      @COL13+5 117CC2
296      @COL14+1 117CC3
297      @COL14+6 117CC4
298      @COL15+5 117CC5
299      @COL15+9 117CC6
300      @COL16+4 117CC7
301      @COL17+2 117CC8
302      @COL17+7 117CC9
303      @COL18+3 117CC101
304
305      DO5 +1;
306      TV = SUM(TV,117A1);
307      TS = SUM(TS,117C1);
308      IT = SUM(IT,117F1);
309      ID = SUM(ID,117I1);
310      IF LAST.PROCESS THEN DO;
311      IF PROCESS = '1' OR PROCESS = '2' OR PROCESS = '204' OR PROCESS =
312      '100' THEN DO;
313      PUT @COL17+3 9# ' +1
314      @COL13 9# ' +1/
315      @COL11 'PROCESS TOTAL: '
316      @COL17+3 TV 9.0
317      @COL13 ID 9.0;
318      END;
319      IF PROCESS = '3' OR PROCESS = '010' THEN DO;
320      PUT @COL17+3 9# ' +1
321      @COL19 9# ' +1/
322      @COL11 'PROCESS TOTAL: '
323      @COL17+3 TV 9.0
324      @COL19 TS 9.0;
325      END;
326      IF PROCESS = '001' THEN DO;
327      PUT @COL17+3 9# ' +1
328      @COL11 9# ' +1/
329      @COL11 'PROCESS TOTAL: '
330      @COL17+3 TV 9.0
331      @COL11 ID 9.0;
332      END;
333      IF PROCESS = '110' THEN DO;
334      PUT @COL17+3 9# ' +1
335      @COL19 9# ' +1/
336      @COL13 9# ' +1/
337      @COL11 'PROCESS TOTAL: '
338      @COL17+3 TV 9.0
339      @COL19 TS 9.0
340      @COL13 ID 9.0;
341      END;
342      IF PROCESS = '101' THEN DO;
343      PUT @COL17+3 9# ' +1
344      @COL11 9# ' +1/

```

```

SAS(R) LOG    US SAS 5.16                RVS/XA JOB NUM10    STEP C0273    PROC SAS
345          @COL13 9* ' ' +1/              00003570
346          @COL1 'PROCESS TOTAL: '        00003500
347          @COL7+3 IV 9.0                  00003590
348          @COL11 TT 9.0                    00003600
349          @COL13 ID 9.0                    00003610
350          END;                             00003620
351          IF PROCESS = '011' THEN DO;      00003630
352          PUT @COL7+3 9* ' ' +1/          00003640
353          @COL2 9* ' ' +1/                  00003650
354          @COL11 9* ' ' +1/                  00003660
355          @COL1 'PROCESS TOTAL: '        00003670
356          @COL7+3 IV 9.0                  00003680
357          @COL9 IS 9.0                     00003690
358          @COL11 TT 9.0;                   00003700
359          END;                             00003710
360          IF PROCESS = '111' THEN DO;      00003720
361          PUT @COL7+3 9* ' ' +1/          00003730
362          @COL9 9* ' ' +1/                  00003740
363          @COL11 9* ' ' +1/                  00003750
364          @COL13 9* ' ' +1/                  00003760
365          @COL1 'PROCESS TOTAL: '        00003770
366          @COL7+3 IV 9.0                  00003780
367          @COL9 IS 9.0                     00003800
368          @COL11 TT 9.0;                   00003810
369          @COL13 ID 9.0;                   00003820
370          END;                             00003830
371          END;                             00003840
372          END;                             00003850
373          RETURN;                          00003860
374
375          H: PUT @COL 'LAND DISPOSAL PROCESS = ' PROCESS / 00003870
376          @COL5+3 'DATA SOURCE: RIA MAIL SURVEY 1SD GENERAL VERSION #3' // 00003880
377          @COL1 'OBS'                      00003890
378          @COL2 'FACILITY'                  00003900
379          @COL3 'PRIMARY'                   00003910
380          @COL4 'WASTE'                     00003920
381          @COL5+1 'PHYSICAL'                00003930
382          @COL6 'WEIGHT'                   00003940
383          @COL7+1 'TOTAL VOLUME'           00003950
384          @COL9 'STORAGE'                   00003960
385          @COL10 'STORAGE'                  00003970
386          @COL11 'TREATMENT'               00003980
387          @COL12 'TREATMENT'               00003990
388          @COL13 'DISPOSAL'                00004000
389          @COL14 'DISPOSAL' //             00004010
390          @COL2+3 'ID'                     00004020
391          @COL3+2 'SIC'                     00004030
392          @COL4+1 'CODE'                   00004040
393          @COL5+3 'FORM'                   00004050
394          @COL7+4 'HANDLED'                00004060
395          @COL9+1 'VOLUME'                 00004070
396          @COL10+1 'METHOD'                00004080
397          @COL11+2 'VOLUME'                00004090
398          @COL12+2 'METHOD'                00004100
399          @COL13+1 'VOLUME'                00004110
400          @COL14+1 'METHOD' //             00004120
401          @COL3+2 'CODE' //               00004130
402          @COL1132* ' ' +1/                00004140

```

	SASIP LOG	OS SAS 5.16	MVS/XA JOB NUMBER	SITP C0273	PROC SAS
403	I				00004150
404	RETURN;				00004160
405					00004170
406					00004180

NOTE: AT LEAST ONE H.D FORMAT WAS TOO SMALL FOR THE NUMBER TO
BE PRINTED. THE DECIMAL POINT MAY BE SHIFTED BY THE
"DEST" FORMAT.

NOTE: 375 LINES WERE WRITTEN TO FILE PRINT.

NOTE: THE DATA STATEMENT USED 0.23 SECONDS AND 124K AND PRINTED PAGES 1 TO 13.

NOTE: SAS USED 616K MEMORY.

NOTE: SAS INSTITUTE INC.
SAS CIRCLE
PO BOX 8000
CARY, N.C. 27511-8000

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = DISPOSAL IN LANDFILLS
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

QBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	XXX999999113	4212	K010	101	1.1025	612291		N/A		N/A	612291	LANDFILL
2	NJ0001700707	2805	K024	502	1.4715	352801		N/A		N/A	352801	LANDFILL
3	XXX999999127	9900	K048	504	1.0565	5340400		N/A		N/A	5340400	LF & LA
4	XXX999999114	4953	K048	504	1.0565	120355		N/A		N/A	120355	LANDFILL
5	XXX999999127	9900	K049	504	1.0565	5614636		N/A		N/A	5614636	LF & LA
6	CAD0041035695	4953	K049	504	1.0565	2366104		N/A		N/A	2366104	LANDFILL
7	XXX999999067	2911	K049	504	1.0565	183541		N/A		N/A	183541	LF & LA
8	MY0079959185	2900	K050	504	1.0565	13540645		N/A		N/A	13540645	LANDFILL
9	XXX999999116	4953	K051	504	1.0565	5112724		N/A		N/A	5112724	LANDFILL
10	PAD000429509	4953	K051	504	1.0565	1071111		N/A		N/A	1071111	LANDFILL
11	XXX999999115	4953	K051	504	1.0565	339319		N/A		N/A	339319	LANDFILL
12	TXD980626774	2900	K051	504	1.0565	320874		N/A		N/A	320874	LANDFILL
13	TXD005141370	N/A	K051	504	1.0565	316252		N/A		N/A	316252	LF & LA
14	XXX999999117	9900	K051	504	1.0565	235120		N/A		N/A	235120	LANDFILL
15	XXX999999127	4953	K051	504	1.0565	64361		N/A		N/A	64361	LANDFILL
16	XXX999999114	2900	K051	504	1.0565	24124		N/A		N/A	24124	LANDFILL
17	TXD0005964590	N/A	K052	506	1.0565	9143506		N/A		N/A	9143506	LANDFILL
18	XXX999999117	4953	K052	506	1.0565	573944		N/A		N/A	573944	LANDFILL
19	IND050530872	4953	K052	506	1.0565	431426		N/A		N/A	431426	LANDFILL
20	LAD00077201	1300	K052	506	1.0565	75526		N/A		N/A	75526	LANDFILL
21	CAL170024614	2900	K052	506	1.0565	26304		N/A		N/A	26304	LANDFILL
22	TXD980626774	2900	K052	506	1.0565	19500		N/A		N/A	19500	LANDFILL
23	XXX999999116	N/A	K052	506	1.0565	7281		N/A		N/A	7281	LANDFILL
24	TXD0005964590	2819	K061	103	2.1032	13337367		N/A		N/A	13337367	LANDFILL
25	PAD0002860377	4953	K061	207	1.9203	9992506		N/A		N/A	9992506	LANDFILL
26	MI0040090633	4953	K061	207	1.9203	5957310		N/A		N/A	5957310	LANDFILL
27	TXD0000830896	3312	K061	207	1.1442	4595929		N/A		N/A	4595929	LANDFILL
28	TXD0000802959	3313	K061	207	1.0452	3502349		N/A		N/A	3502349	LANDFILL
29	MIT270010093	9900	K061	207	2.1032	2904982		N/A		N/A	2904982	LANDFILL
30	OH0000304240	3312	K061	207	1.5246	2710442		N/A		N/A	2710442	LANDFILL
31	TXD066362559	4953	K061	207	1.0565	2421355		N/A		N/A	2421355	LANDFILL
32	XXX999999114	4953	K061	207	1.1442	2020490		N/A		N/A	2020490	LANDFILL
33	TXD0000308096	4953	K061	207	1.0720	1801830		N/A		N/A	1801830	LANDFILL
34	PAD0000429509	4953	K061	207	1.0720	1874577		N/A		N/A	1874577	LANDFILL
35	ALD0000622464	3312	K061	207	1.7356	1799607		N/A		N/A	1799607	LANDFILL
36	IND005444062	4953	K061	207	1.7356	1721207		N/A		N/A	1721207	LANDFILL
37	ILD005263157	3521	K061	207	1.7347	1128831		N/A		N/A	1128831	LANDFILL
38	MI0000810408	3521	K061	207	1.6676	455442		N/A		N/A	455442	LANDFILL
39	TXD990797441	3312	K061	207	1.2301	244030		N/A		N/A	244030	LANDFILL
40	TXD007396175	4953	K061	207	1.9203	183638		N/A		N/A	183638	LANDFILL
41	PAD0074966789	2819	K062	201	2.1032	89257766		N/A		N/A	89257766	LANDFILL
42	TXD980626774	2819	K062	201	2.1032	73113		N/A		N/A	73113	LANDFILL
43	PAD002660377	124X 019X	K062	201	1.0565			N/A		N/A		LANDFILL
CONSTITUENT CODE:	XXX999999114	4953	K062	201	1.0565			N/A		N/A		LANDFILL
CONSTITUENT CODE:	K063											

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS - DISPOSAL IN IAHN ILLS
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OBS	FACILITY	PHYSICAL WEIGHT FORM	WASTE CODE	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	MI0002134000	308	P062	16456575	TAIRKS	6202062	TK & OIR	6202062	LAIDFILL
46	MI0048090633	308	P062	7847471	N/A	.	N/A	7847471	LAIDFILL
47	PA0000429509	308	P062	1183363	N/A	.	N/A	1183363	LAIDFILL
48	MI0005263157	308	P062	1147613	N/A	.	N/A	1147613	LAIDFILL
49	CI0018631952	308	P062	313678	N/A	.	N/A	313678	LAIDFILL
50	MI0002134000	308	P062	213032	TAIRKS	198925	TK & OIR	198925	LAIDFILL
51	TI0007310694	308	P062	76099	N/A	76099	TAIRKS	76099	LAIDFILL
52	PA0073613663	207	P069	9022245	N/A	.	N/A	~~9022245~~	~~LAIDFILL~~
53	AI0046681032	207	P069	1012303	WST PILE	.	N/A	~~1012303~~	~~LAIDFILL~~
54	DI0003113266	200	P071	2433252	N/A	.	N/A	2433252	LAIDFILL
55	KI0006370159	200	P071	1261278	N/A	1261278	TAIRKS	1261278	LAIDFILL
56	GA0040690737	200	P071	306810	N/A	.	N/A	306810	LAIDFILL
57	ME000242701	200	P071	338536	N/A	.	N/A	338536	LAIDFILL
58	LA000877201	200	P071	244034	N/A	244034	IMPOUND	244034	LAIDFILL
59	TI00050530872	504	P085	377207	N/A	.	N/A	377207	LAIDFILL
60	CONSTITUENT CODE:	202	P049	3802503	N/A	.	N/A	~~3802503~~	~~LAIDFILL~~
61	CONSTITUENT CODE:	201	P004	3277060	N/A	.	N/A	3277060	LAIDFILL
62	CONSTITUENT CODE:	207	P062	147237	N/A	147237	OTHER SP	147237	LAIDFILL
PROCESS TOTAL:									
				241606207					
				217188642					

* - Waste is no longer generated

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = DISPOSAL BY LAND APPLICATION
DATA SOURCE: RIA MAIL SURVEY 150 GENERAL VERSION 83

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	TXD000035249	9900	K040	407	1.2713	533326	8707172	N/A	6707172	N/A	533326	LAND APL
2	ARD0000021998	2911	K040	504	1.3222	8707172	7201246	TANKS	-	TANKS	2929802	LAND APL
3	TXD065099160	2911	K040	504	1.3701	7201246	-	TANKS	-	N/A	7201246	LAND APL
4	XXX999999127	9900	K040	504	4	5340400	-	N/A	-	N/A	5340400	LF & LA
5	CAD0000633164	4953	K040	504	1.2104	1121834	-	N/A	-	N/A	1121834	SI & LA
6	XXX9999999121	N/A	K040	504	4	645108	-	N/A	-	N/A	645108	LAND APL
7	INC044908663	2911	K040	504	1.109	261291	261291	CN & SI	-	N/A	261291	LAND APL
8	TXD000007050	2911	K040	504	1.5414	127071	-	N/A	-	N/A	127071	LAND APL
9	UKD0007234586	2900	K040	504	1.5106	114216	-	N/A	-	N/A	114216	LAND APL
10	LAD06262087	2900	K040	504	1.1678	27344	-	N/A	-	N/A	27344	LAND APL
11	ALD0004009320	2911	K040	504	1.5414	24437	-	N/A	24437	OTHER SP	24437	LAND APL
12	HIT160010005	2911	K040	504	1.1812	8643	-	N/A	-	N/A	8643	LAND APL
13	LAD081999724	2900	K040	504	1.5414	8271	8271	IMPOUND	-	N/A	8271	LAND APL
14	MTD000475194	2900	K040	504	1.5414	1993	1993	CONTAINER	-	N/A	1993	LAND APL
15	LAD041514811	1321	K040	504	1.5414	39	-	TANKS	-	N/A	39	LAND APL
16	PHD0000686071	2911	K040	504	2.3043	1292657	-	N/A	-	N/A	1292657	LAND APL
17	XXX9999999067	2911	K049	406	1.1533	142315	-	N/A	-	N/A	142315	LAND APL
18	XXX9999999127	9900	K049	504	4	5614636	-	N/A	-	N/A	5614636	LF & LA
19	TXD048210645	2900	K049	504	1.5414	5346027	5346027	TANKS	-	OTHER SP	5346027	LAND APL
20	TXD082688979	2911	K049	504	1.4014	1201786	-	N/A	-	N/A	1201786	LAND APL
21	LAD065485146	2900	K049	504	1.1347	895582	-	N/A	-	N/A	895582	LAND APL
22	XXX9999999121	N/A	K049	504	4	645108	-	N/A	-	N/A	645108	SI & LA
23	OKD007233836	2900	K049	504	1.1246	421039	-	N/A	-	N/A	421039	LAND APL
24	ILD042671248	2900	K049	504	1.6439	411028	-	N/A	-	N/A	411028	LAND APL
25	TXD000807859	2911	K049	504	1.7219	306776	-	TANKS	-	N/A	306776	LAND APL
26	MAD009275082	2911	K049	504	1.4279	160011	840	TANKS	-	N/A	160011	LAND APL
27	TXD0000835249	9900	K049	504	1.2713	83720	-	TANKS	-	N/A	83720	LAND APL
28	OKD007234586	2900	K049	504	1.5106	41239	41239	TANKS	1681	OTHER SP	41239	LAND APL
29	ALD0004009320	2911	K049	504	1.5414	1681	-	N/A	-	N/A	1681	LAND APL
30	TXD065099160	2911	K049	504	1.3701	1640	1640	TANKS	-	N/A	1640	LAND APL
31	TXD0088474663	2911	K049	504	1.5414	1504	-	N/A	-	N/A	1504	LAND APL
32	VAD050990357	2911	K049	504	1.4279	1045	-	N/A	-	N/A	1045	LAND APL
33	NPD000333211	2900	K049	504	1.2918	946	-	N/A	-	N/A	946	LAND APL
34	LAD041514811	1321	K049	504	1.5414	116	-	TANKS	-	N/A	116	LAND APL
35	PHD0000686071	2911	K049	504	2.3043	2085110	2085110	TANKS	-	N/A	2085110	LAND APL
36	XXX9999999067	2911	K049	504	1.1533	163541	-	N/A	-	N/A	163541	LF & LA
37	OKD007234586	2900	K050	504	1.5106	131966	-	N/A	-	N/A	131966	LAND APL
38	MAD009275082	2900	K050	504	1.7219	7519	-	N/A	-	N/A	7519	LAND APL
39	PHD0000686071	2911	K050	504	2.3043	3359	-	N/A	-	N/A	3359	LAND APL
40	TXD065099160	2911	K050	504	1.3701	1687	-	N/A	-	N/A	1687	LAND APL
41	XXX9999999012	2900	K050	504	1.2138	1640	1640	TANKS	-	N/A	1640	LAND APL
42	PHD0000686071	2911	K050	504	1.2138	592	-	N/A	-	N/A	592	LAND APL
43	XXX9999999012	2900	K050	504	1.2918	315	-	N/A	-	N/A	315	LAND APL
44	NPD000333211	2900	K050	504	1.2918	315	-	N/A	-	N/A	315	LAND APL

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = DISPOSAL BY LAND APPLICATION
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
45	NJT000029447	2911	K051	504	1.3701	5984734	TANKS	4619732	N/A	4770140	LAND APL
46	MAD009275082	2911	K051	504	1.7219	4619732	N/A	4619732	TANKS	614004	LAND APL
47	LAD062662887	2900	K051	504	1.1678	3757469	N/A	3757469	OTHER SP	3757469	LAND APL
48	TXD0408210645	2900	K051	504	1.5414	3691089	TANKS	3691089	N/A	3691089	LAND APL
49	XXX999999012	2900	K051	504	1.2138	3145223	N/A	3145223	N/A	3145223	LAND APL
50	TXD042671248	2900	K051	504	1.6439	2240766	N/A	2240766	N/A	2240766	LAND APL
51	CAD000633164	4953	K051	504	1.2104	1859884	N/A	1859884	SI & LA	1859884	SI & LA
52	CAD000060012	4953	K051	504	1.2104	730374	N/A	730374	SI & LA	730374	SI & LA
53	XXX9999999121	N/A	K051	504	4	645108	N/A	645108	N/A	645108	LAND APL
54	TXD0000835249	9900	K051	504	1.2713	518442	N/A	518442	N/A	518442	LAND APL
55	OKD007233836	2900	K051	504	1.1246	430914	N/A	430914	N/A	430914	SI & LA
56	TXD0888474663	2911	K051	504	1.5414	413171	TANKS	413171	N/A	413171	LAND APL
57	TXD00080769	2911	K051	504	1.5414	284971	N/A	284971	N/A	284971	LAND APL
58	CAD079089512	4953	K051	504	1.163	283658	N/A	283658	IMPOUND	283658	LAND APL
59	XXX9999999127	9900	K051	504	4	235120	N/A	235120	N/A	235120	LF & LA
60	IND044908663	2911	K051	504	1.109	225587	CN & SI	225587	N/A	225587	LAND APL
61	LAD065485146	2900	K051	504	1.1347	177954	N/A	177954	N/A	177954	LAND APL
62	LAD041514811	1321	K051	504	1.5414	150381	TANKS	150381	N/A	150381	LAND APL
63	XXX9999999120	N/A	K051	504	4	116000	N/A	116000	N/A	116000	LAND APL
64	VAD050990357	2911	K051	504	1.4279	87068	N/A	87068	NOT ACTD	87068	LAND APL
65	NPD000333211	2900	K051	504	1.2918	78769	N/A	78769	N/A	78769	LAND APL
66	TXD065099160	2911	K051	504	1.3701	34527	N/A	34527	N/A	34527	LAND APL
67	LAD081999724	2900	K051	504	1.5414	29324	IMPOUND	29324	N/A	29324	LAND APL
68	NPD000686071	2911	K051	504	2.3043	11240	N/A	11240	N/A	11240	LAND APL
69	TXD051161990	2900	K051	504	1.1453	6705	TANKS	6705	N/A	6705	LAND APL
70	MTD000475194	2900	K051	504	1.5414	151	CONTAINER	151	N/A	151	LAND APL
71	TXD0000835249	9900	K052	506	1.2713	868205	N/A	868205	N/A	868205	LAND APL
72	ILD042671248	2900	K052	506	1.6439	22099	N/A	22099	N/A	22099	LAND APL
73	MTD006230189	2900	K052	506	1.5106	1843	N/A	1843	N/A	1843	LAND APL
74	NPD000333211	2900	K052	506	1.2918	1576	N/A	1576	N/A	1576	LAND APL
75	MAD009275082	2911	K052	506	1.7219	420	N/A	420	N/A	420	LAND APL
76	OKD007234586	2900	K052	506	1.5106	23	N/A	23	OTHER SP	23	LAND APL
77	IND005444062	3312	P062	308	1.0728	28432343	N/A	12081822	TK & SI	16350520	SI & LA
78	KSD007233422	2900	X101	407	1.3701	16374368	N/A	8187183	TANKS	8187183	LAND APL
79	KSD007233422	K049 K048	X102	504	1.3701	334170	IMPOUND	167005	TANKS	167005	LAND APL
80	TXD990797714	K051 K050 070X	X166	504	1.5414	20587766	N/A	20507558	OTHER SP	5126847	IM & LA
PROCESS TOTAL:											
						136122611					
						92413130					

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = SURFACE IMPROVEMENT TREATMENT ONLY
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	HEIGHT	TOTAL VOLUME HAULED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	H00062011796	2816	K004	202	1.4765	166989	67392	TK & CH	166989	SI & OTN *	-	N/A
2	LAD072606627	2900	K049	504	1.9593	1863725	-	N/A	1863725	IMPURD	-	N/A
3	CAD000094771	4953	K049	504	1.3662	1101624	-	N/A	243584	TK & SI	-	N/A
4	LAD056024391	2911	K050	504	1.1804	1440	-	N/A	1440	IMPURD	-	N/A
5	H10096963194	4200	K051	504	1.494	747000	747000	WST PILE	747000	IMPURD	-	N/A
6	CAD079089512	4953	K051	504	1.163	203650	-	N/A	283650	IMPURD	283650	LAND APL
7	LAD000777201	4953	K052	506	1.8368	431426	-	N/A	431426	IMPURD	431426	LANDFILL
8	TX0005964598	2900	K052	506	1.4563	7281	-	N/A	7281	IMPURD	7281	LANDFILL
9	ALD000622464	4953	K061	207	1.2258	1074577	-	N/A	1743626	IMPURD	1074577	LANDFILL
10	H10096963194	4200	K061	207	1.494	1494000	1494000	WST PILE	1494000	IMPURD	-	N/A
11	SC0003343316	3400	K062	308	4.3237	2334798	-	N/A	2334798	TK & SI	-	N/A
12	LAD000777201	4953	K071	200	1.8368	244834	-	N/A	244834	IMPURD	244834	LANDFILL
13	TX0008081101	2869	K103	301	1.104	4496781	4496781	TAIR-S	4496781	IMPURD	-	N/A
CONSTITUENT CODE: U012												
14	HS0033417031	2869	K104	301	1.4243	24592800	-	N/A	24592800	TK & SI	-	N/A
15	TX0990797714	2911	X102	504	1.5414	14662099	14662099	NOT ACID	14662099	IMPURD	-	N/A
CONSTITUENT CODE: K050 K051												
PROCESS TOTAL:											53147052	
											54303033	

* - Waste is no longer generated

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = SURFACE IMPOUNDMENT STORAGE ONLY
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

OGS	FACILITY ID	PRIMARY SIC	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	MYD007064447	2911	K048	504	1.3256	127451604	11257578	IMPOUND	6707172	N/A	2929802	N/A
2	ARD000021998	2911	K048	504	1.3222	6707172	6707172	CN & SI	6707172	TANKS	2929802	LAND APL
3	LAD056024391	2911	K048	504	1.1804	575805	575805	IMPOUND	575805	N/A	261291	N/A
4	IND044908663	2911	K048	504	1.109	261291	261291	CN & SI	261291	N/A	261291	LAND APL
5	TXD066447376	2911	K048	504	2.235	184251	184251	IMPOUND	184251	N/A	8271	N/A
6	ARD990869737	2900	K048	504	2.6865	46948	46948	IMPOUND	46948	N/A	8271	LAND APL
7	LAD081999724	2900	K048	504	1.5414	8271	8271	IMPOUND	8271	N/A	8271	LAND APL
8	TXD066447376	2911	K049	504	2.235	444819	444819	IMPOUND	444819	N/A	8271	N/A
9	MYD051843613	2911	K050	504	2.235	545	545	IMPOUND	545	N/A	8271	N/A
10	XXX999999116	N/A	K051	504	2.3524	13540645	6917908	IMPOUND	6917908	OTHER SP	13540645	LANDFILL
11	XXX999999078	2911	K051	504	1.1395	8009296	8009296	SI & HP	8009296	NOT ACTD	8009296	N/A
12	LAD056024391	2911	K051	504	1.1804	1295561	1295561	IMPOUND	1295561	N/A	8009296	N/A
13	UTD0000826362	2911	K051	504	1.3256	736517	307151	IMPOUND	50761	TANKS	50761	N/A
14	TXD066447376	2911	K051	504	2.235	413202	413202	IMPOUND	413202	N/A	225587	N/A
15	IND044908663	2911	K051	504	1.109	225587	225587	CN & SI	225587	N/A	225587	LAND APL
16	MYD048743009	2900	K051	504	2.6865	196574	196574	IMPOUND	196574	N/A	225587	N/A
17	MYD051843613	2911	K051	504	2.235	127558	127558	IMPOUND	127558	N/A	225587	N/A
18	LAD081999724	2900	K051	506	2.3524	29324	29324	IMPOUND	29324	OTHER SP	29324	LAND APL
19	XXX999999116	N/A	K052	506	2.3524	19508	12778	IMPOUND	12778	N/A	19508	LANDFILL
20	MSD008158685	3312	K061	103	1.6545	272387	100885	SI & HP	100885	N/A	19508	N/A
21	ILD005109525	3496	K062	308	1.7219	31912317	57167	IMPOUND	31855150	TANKS	57167	N/A
22	MID096963194	4200	K062	308	1.494	2968000	2968000	IMPOUND	2968000	OTHER SP	2968000	N/A
23	MID086141402	3310	K062	308	2.3837	2024238	2024238	IMPOUND	2024238	TANKS	2024238	N/A
24	MID057002602	5090	K062	308	1.2999	1260565	1260565	IMPOUND	1260565	NOT ACTD	1260565	N/A
25	IND005447537	3312	K062	308	1.6552	73678	73678	IMPOUND	73678	N/A	73678	N/A
26	ALD008163308	2812	K071	200	1.2394	293223	217349	SI & HP	217349	N/A	217349	N/A
27	ALD008163308	2812	K071	200	1.2394	2720	2720	CN & SI	2720	N/A	2720	N/A
28	KSD007233422	2900	X102	504	1.3701	334170	368354	IMPOUND	167085	TANKS	167085	LAND APL
CONSTITUENT CODE:												
K051 K050 070X												
29	ARD000021998	2911	X107	504	1.3222	193492	193492	IMPOUND	193492	N/A	193492	N/A
CONSTITUENT CODE:												
K051 K049 K050 K052												
PROCESS TOTAL:						201631471	46310270					

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = TREATMENT AND STORAGE IN SI
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL WEIGHT HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	UT00000626370	2911	K049	504	1.5414	49249	IMPOUND	49249	IMPOUND	-	N/A
2	UT00000626370	2911	K051	504	1.5414	499263	IMPOUND	499263	IMPOUND	-	N/A
3	OH1400012316	2900	K052	506	3.943	124228	CN & SI	124228	SI & OTR	-	N/A
4	PAD003053750	3315	K062	308	2.0284	19294538	IMPOUND	19294538	IMPOUND	-	N/A
5	OH0020273819	4953	K062	308	1.1645	11611846	IMPOUND	11611846	IMPOUND	11611846	INJC MEL
6	PAD003053758	3315	K062	308	2.0284	372534	IMPOUND	372534	IMPOUND	-	N/A
7	CAD0059277137	3315	K062	308	2.985	61942	IMPOUND	61942	IMPOUND	-	N/A
8	PAD004397683	3532	K062	308	2.0284	3462	IMPOUND	3462	IMPOUND	-	N/A
9	NJ0002365730	2865	K066	301	1.1049	16612054	CN & SI	16612054	IMPOUND	-	N/A
CONSTITUENT CODE: K069 D008 157X					48629916	48629916		32017062			
PROCESS TOTAL:					48629916	48629916		32017062			

* - Waste is no longer generated

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = SURFACE IMPONDERMENT DISPOSAL ONLY
DATA SOURCE: RIA MAIL SURVEY TSD GENERAL VERSION 83

085	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	HYD000712443	3011	K048	301	4.1531	3.42E+00		N/A		N/A	3.42E+09	IMPONDER
	CONSTITUENT CODE: 070X											
2	CAD000633164	4953	K040	504	1.2104	1121834		N/A		N/A	1121834	SI & LA
3	CAD000633164	4953	K049	504	1.2104	2336663		N/A		N/A	2336663	IMPONDER
4	TXD980626774	2900	K049	504	1.3693	935132		N/A		N/A	935132	IMPONDER
5	OKD007233836	2900	K049	504	1.1246	421039		N/A		N/A	421039	SI & LA
6	TXD980626774	2900	K050	504	1.3693	9351		N/A		N/A	9351	IMPONDER
7	KSD007138605	2900	K051	504	1.6439	12000470		N/A		N/A	24067	IMPONDER
8	CAD000633164	4953	K051	504	1.2104	1859884		N/A		N/A	1859884	SI & LA
9	CAD000633164	4953	K051	504	1.2104	730374		N/A		N/A	730374	SI & LA
10	OKD007233836	2900	K051	504	1.1246	430914		N/A		N/A	430914	SI & LA
11	PAD004635146	4953	K061	103	1.2185	4725403	4725403	NOT ACTD	4725403	TANKS	4725403	IMPONDER
12	PAD004635146	4953	K062	201	1.2185	1664293	1664293	NOT ACTD	1664293	TANKS	1664293	IMPONDER
	CONSTITUENT CODE: 124X 210X											
13	PAD004635146	4953	K062	308	1.2185	42142273	42142273	NOT ACTD	42142273	TANKS	42142273	IMPONDER
14	HOD009236784	3498	K062	308	3.943	98575		N/A		N/A	98575	IMPONDER
15	PAD0073613663	3341	K069	207	1.5413	9022245		N/A		N/A	9022245	LF & SI
16	GAD0046690737	2812	K071	200	1.2527	552716		N/A		N/A	552716	IMPONDER
	PROCESS TOTAL:											
						3.55E+09					57052518	

* - Waste declared non-hazardous
** - Waste is no longer generated

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = TREATMENT AND DISPOSAL IN SI
DATA SOURCE: RIA MAIL SURVEY 1SD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL FORM	WEIGHT	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	LAD072606627	2900	K052	506	1.9593	621241		N/A	621241	IMPOUND	621241	IMPOUND
2	IND00544062	3312	K062	300	1.0720	20432343		N/A	12081022	TK & SI	16350520	SI & LA
3	TXD007377270	2012	K073	400	1.3120	14024548		N/A	14024548	IMPOUND	~~5~~	~~IMPOUND~~ *
PROCESS TOTAL:						43070132			26727611		1697161	

* - Waste is no longer generated

FIRST THIRD LIST WASTES

LAND DISPOSAL PROCESS = DISPOSAL AND STORAGE IN SI
DATA SOURCE: RIA HAIL SURVEY TSD GENERAL VERSION #3

OBS	FACILITY ID	PRIMARY SIC CODE	WASTE CODE	PHYSICAL WEIGHT FORM	TOTAL VOLUME HANDLED	STORAGE VOLUME	STORAGE METHOD	TREATMENT VOLUME	TREATMENT METHOD	DISPOSAL VOLUME	DISPOSAL METHOD
1	NED868645696	3479	K062	308	3.4	1700000	IMPOLND	.	N/A	1700000	IMPOLND
2	NJ0079303020	2812	K071	200	1.2044	470598	IMPOLND	.	N/A	470598	IMPOLND
PROCESS TOTAL:						2170598	2170598			2170598	

FIRST THIRD LIST WASTES
LAND DISPOSAL PROCESS = TREATMENT, STORAGE, AND DISPOSAL IN SI
DATA SOURCE: RIA MAIL SURVEY 150 GENERAL VERSION 03

LAND DISPOSAL PROCESS = TREATMENT, STORAGE, AND DISPOSAL IN SI
DATA SOURCE: RIA MAIL SURVEY 150 GENERAL VERSION 03

PROCESS TOTAL:

APPENDIX B
First Third Waste Codes

First Third Waste Codes

Waste code	Waste description
aF006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
aF007	Spent cyanide plating bath solutions from electroplating operations.
aF008	Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process.
aF009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
aF019	Wastewater treatment sludges from the chemical conversion coating of aluminum.
aK001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.
aK004	Wastewater treatment sludge from the production of zinc yellow pigments.
a*K008	Oven residue from the production of chrome oxide green pigments.
aK011	Bottom stream from the wastewater stripper in the production of acrylonitrile.
aK013	Bottom stream from the acetonitrile column in the production of acetonitrile.

First Third Waste Codes

Waste code	Waste description
aK014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.
a**K015	Still bottoms from the distillation of benzyl chloride.
a**K016	Heavy ends or distillation residues from the production of carbon tetrachloride.
a**K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.
aK018	Heavy ends from the fractionation column in ethyl chloride production.
a**K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.
a**K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.
a**K021	Aqueous spent antimony catalyst waste from fluoromethane production.
K022	Distillation bottom tars from the production of phenol/acetone from cumene.
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.
aK030	Column bottom or heavy ends from the combined production of trichloroethylene and perchloroethylene.
aK031	Byproduct salts generated in the production of MSMA and cacodylic acid.
**K035	Wastewater treatment sludges generated in the production of creosote.

First Third Waste Codes

Waste code	Waste description
**K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.
**K037	Wastewater treatment sludge from the production of disulfoton.
^a K044	Wastewater treatment sludges from the manufacturing and processing of explosives.
**K045	Spent carbon from the treatment of wastewater containing explosives.
^a K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.
K047	Pink/red water from TNT operations.
^a K048	Dissolved air flotation (DAF) float from the petroleum refining industry.
^a K049	Slop oil emulsion solids from the petroleum refining industry.
^a K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.
^a K051	API separator sludge from the petroleum refining industry.
^a K052	Tank bottoms (leaded) from the petroleum refining industry.
^a *K060	Ammonia still lime sludge from coking operations.
^a K061	Emission control dust/sludge from the primary production of steel in electric furnaces.
^a K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron or steel industry (SIC Codes 331 and 332).

First Third Waste Codes

Waste code	Waste description
a*K069	Emission control dust/sludge from secondary lead smelting.
aK071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.
a*K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.
**K083	Distillation bottoms from aniline production.
a**K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
a**K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.
aK086	Solvent washes and sludges; caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.
K087	Decanter tank tar sludge from coking operations.
a**K099	Untreated wastewater from the production of 2,4-D.
a*K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
a**K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.

First Third Waste Codes

Waste code	Waste description
a**K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
K103	Process residues from aniline extraction from the production of aniline.
K104	Combined wastewater streams generated from nitrobenzene/aniline production.
aK106	Wastewater treatment sludge from the mercury cell process in chlorine production.
P001	Warfarin, when present at concentrations greater than 0.3%; 3 (alpha-Acetyl-benzyl)-4-Hydroxycoumarin and salts; 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts.
a**P004	Aldrin; 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, exo-dimethanonaphthalene; 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-.
**P005	Allyl alcohol; 2-Propen-1-ol.
aP010	Arsenic acid.
a**P011	Arsenic (V) oxide; Arsenic pentoxide.
aP012	Arsenic (III) oxide; Arsenic trioxide.
P015	Beryllium dust.
a**P016	Bis(chloromethyl) ether; Methane, oxybis[chloro-.

First Third Waste Codes

Waste code	Waste description
P018	Brucine; Strychnidin-10-one, 2,3-dimethoxy.
P020	Dinoseb; Phenol, 2,4-dinitro-6-(1-methylpropyl)-; Phenol, 2-(1-methylpropyl)-4,6-dinitro-.
aP030	Cyanides (soluble cyanide salts), not elsewhere specified.
a**P036	Dichlorophenylarsine; Phenyl dichloroarsine; Arsonous dichloride, phenyl-.
a**P037	Dieldrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8, 8a-octahydro-endo, exo-1,4:5,8-dimethanonaphthalene; 2,7:3,6 Dimethanonaphta[2,3b]oxirane, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)-.
P039	Disulfoton; O, O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate; Phosphorodithioic acid, O, O-diethyl S-[2-(ethylthio)ethyl] ester.
**P041	Diethyl-p-nitrophenyl phosphate; Phosphoric acid, diethyl p-nitrophenyl ester.
P048	2,4-Dinitrophenol; Phenol, 2,4-dinitro-.
aP050	Endosulfan; 5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite; 6,9-Methano-2,4,3-benzodioxathiepen, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide.
a**P058	Fluoracetic acid, sodium salt; Acetic acid, fluoro-.
a**P059	Heptachlor; 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-.

First Third Waste Codes

Waste code	Waste description
ap063	Hydrogen cyanide; Hydrocyanic acid.
**P068	Methyl hydrazine; Hydrazine, methyl-.
P069	2-Methylactonitrile; Propanenitrile, 2-hydroxy-2-methyl-.
P070	Aldicarb; Propanal, 2-methyl-2-(methylthio)-, [(methylamino)carbonyl]oxime.
P071	Methyl parathion; O, O-Dimethyl O-p-nitrophenyl phosphorodithioate; Phosphorotrioic acid, O, O-dimethyl O-(4-nitrophenyl)ester.
**P081	Nitroglycerine; 1,2,3-Propanetriol, trinitrate-.
**P082	N-Nitrosodimethylamine; Dimethylnitrosamine; Methamine, N-Methyl-N-nitroso-.
**P084	N-Nitrosomethylvinylamine; Vinylamine, N-methyl-N-nitroso-; Ethenamine, N-methyl-N-nitroso-.
**P087	Osmium tetroxide; Osmium oxide.
**P089	Parathion; Phosphorothioic acid, O, O-diethyl O-(4-nitrophenyl)ester.
ap092	Phenylmercuric acetate; Mercury, (acetato-O)phenyl-.
P094	Phorate; Phosphorothioic acid, O,O-diethyl S-(ethylthio)methyl ester.
P097	Famphur; Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester; Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester.

First Third Waste Codes

Waste code	Waste description
**P102	Propargyl alcohol; 2-Propyn-1-ol; Propargyl alcohol.
**P105	Sodium azide.
**P108	Strychnine and salts; Strychnidin-10-one, and salts.
ap110	Tetraethyl lead; Plumbane, tetraethyl-.
ap115	Thallium(I) sulfate; Sulfuric acid, thallium(I) salt.
P120	Vanadium pentoxide; Vanadium(V) oxide.
**P122	Zinc phosphide, when present at concentrations greater than 10%.
ap123	Toxaphene; Camphene, octachloro-.
U007	Acrylamide; 2-Propenamide.
U009	Acrylonitrile; 2-Propenenitrile.
**U010	Mitomycin C; Azirino (2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-(((aminocarbonyl) oxy)methyl)-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-.
U012	Aniline; Benzenamine.
**U016	Benz[c]acridine; 3,4-Benzacridine.
**U018	Benz[a]anthracene; 1,2-Benzanthracene.
U019	Benzene.
**U022	Benzo[a]pyrene; 3,4-Benzopyrene.

First Third Waste Codes

Waste code	Waste description
a**U029	Methyl bromide; Methane, bromo-.
U031	n-Butanol; 1-Butanol; n-Butyl alcohol.
a**U036	Chlordane, technical; 4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-.
aU037	Chlorobenzene; Benzene, chloro-.
a**U041	1-Chloro-2,3-epoxypropane; Oxirane, 2-(chloromethyl)-.
a**U043	Vinyl chloride; Ethene, chloro-.
aU044	Chloroform; Methane, trichloro-.
a**U046	Chloromethyl methyl ether; Methane, chloromethoxy-.
**U050	Chrysene; 1,2-Benzphenanthrene.
U051	Creosote.
U053	Crotonaldehyde; 2-Butenal.
a**U061	DDT; Dichloro diphenyl trichloroethane; Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-.
**U063	Dibenz o [a,h] anthracene; Dibenz[a,h]anthracene.
**U064	1,2:7,8-Dibenzopyrene; Dibenz[a,i]pyrene; Benzo[rst]pentaphene.
a**U066	Dibromo-3-chloropropane, 1,2-.
a**U067	Ethylene dibromide; Ethane, 1,2-dibromo-.
aU074	1,4-Dichloro-2-butene; 2-Butene, 1,4-dichloro-.
aU077	Ethane, 1,2-dichloro-; Ethylene dichloride.

First Third Waste Codes

Waste code	Waste description
a**U078	Dichloroethylene, 1,1-; Ethene, 1,1-dichloro-.
**U086	N,N Diethylhydrazine; Hydrazine, 1,2-diethyl-.
**U089	Diethylstilbestrol; 4,4' -Stilbenediol, alpha,alpha'-diethyl-; Phenol, 4,4'-(1,2-diethyl-1,2-ethenedryl)bis-.
**U103	Dimethyl sulfate; Sulfuric acid, dimethyl ester.
U105	2,4-Dinitrotoluene; Benzene, 1-methyl-2,4,-dinitro-.
**U108	Dioxane, 1,4-; 1,4-Diethyleneoxide.
U115	Ethylene oxide; Oxirane.
U122	Formaldehyde; Methylene oxide.
**U124	Furan; Furfuran.
a**U129	Lindane; Hexachlorocyclohexane (gamma isomer).
aU130	Hexachlorocyclopentadiene; 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexa-chloro-.
U133	Hydrazine; Diamine.
aU134	Hydrofluoric acid; Hydrogen fluoride.
**U137	Indeno[1,2,3-cd]pyrene; 1,10-(1,2-Phenylene) pyrene.
aU151	Mercury.
U154	Methanol; Methyl alcohol.

First Third Waste Codes

Waste code	Waste description
**U155	Methapyrilene; Pyridine, 2-[(2-(dimethylamino)ethyl]-2-phenyla-mino-; 1,2-Ethanediamine, N,N-dimethyl-N'2-pyridinyl-N'-(2-thienylmethyl)-.
U157	3-Methylcholanthrene; Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-.
aU158	4,4'-Methylenebis(2-chloroaniline); Benzenamine, 4,4'-methylenebis[2-chloro-.
U159	Methyl ethyl ketone; 2-Butanone.
**U171	Nitropropane, 2-.
**U177	N-Nitroso-N-methylurea; Carbamide, N-methyl-N-nitroso-; Urea, N-methyl-N-nitroso-.
**U180	N-Nitrosopyrrolidine; Pyrrole, tetrahydro-N-nitroso-; Pyrrolidine, 1-nitroso-.
a**U185	Pentachloronitrobenzene; Benzene, pentachloronitro-.
U188	Phenol; Benzene, hydroxy-.
a**U192	Pronamide; 3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide.
**U200	Reserpine; Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy-benzoyl)oxy]-methyl ester.
a**U209	Tetrachloroethane, 1,1,2,2-.
aU210	Tetrachloroethylene; Ethene, 1,1,2,3-tetrachloro-.
aU211	Carbon tetrachloride; Methane, tetrachloro-.

First Third Waste Codes

Waste code	Waste description
**U219	Thiourea; Carbamide, thio-.
U220	Toluene; Benzene, methyl-.
U221	Toluenediamine; Diaminotoluene; Benzenediamine, ar-methyl-.
U223	Toluene diisocyanate; Benzene, 1,3-diisocyanatomethyl-.
^a U226	Methylchloroform; 1,1,1-Trichloroethane.
^a **U227	Trichloroethane, 1,1,2-; Ethanol, 2-ethoxy-.
^a U228	Trichloroethylene; Trichloroethene.
^a **U237	Uracil mustard; Uracil, 5-[bis(2-chloroethyl)-amino]-; 2,4(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-.
**U238	Ethyl carbamate (urethan); Carbamic acid, ethyl ester.
**U248	Warfarin, when present at concentrations of 0.3% or less; 3-(alpha-Acetylbenzyl)-4-hydroxy-coumarin and salts, when present at concentrations of 0.3% or less.
**U249	Zinc phosphide, when present at concentrations of 10% or less.

* Waste no longer generated as defined.

** Waste codes for which no volume was reported as land disposed in the 1981 RIA Mail Survey.

^a Waste code is a potential California List waste.

APPENDIX C

Treatment/Recycling Capacity
Requirements for First Third Wastes
Affected by the Proposed Rule

Treatment/Recycling Capacity Requirements for First Third Wastes
Affected by the Proposed Rule

Waste code	Technology	Required treatment/ recycling capacity
INCINERATION		
K016, K018, K019 K020, K024, K030 K037	Rotary kiln or fluidized bed incineration	1.4
K048, K049, K050 K051, K052	Fluidized bed or rotary kiln incineration with stabilization of ash, and chrome reduction, chemical pre- cipitation and filtration of the scrubber water	167.3
K015	Liquid injection incineration or industrial kilns	<0.1
WASTEWATER TREATMENT		
K062	Chrome reduction, chemical precipitation, vacuum filtration	230.3
WASTEWATER TREATMENT AND INCINERATION		
K103, K104	Solvent extraction followed by incineration of the solvent- contaminated extract and steam stripping and carbon adsorption of the wastewater	29.1
CHEMICAL TREATMENT		
K071	Acid leaching, chemical oxidation, and filtration of the non-waste- water (brine muds) followed by sulfide precipitation and filtration treatment of the wastewater (filtrate)	8.0
HIGH TEMPERATURE METALS RECOVERY		
K061	High temperature metals recovery	<u>94.5</u>
TOTAL		530.6

APPENDIX D

RIA Mail Survey Coding System

- Attachment 1: Physical Form Codes
- Attachment 2: Mixed Waste Streams ("X" Waste Codes)
- Attachment 3: TSD Management Codes

ATTACHMENT 1
Physical Form Codes

Physical Form Codes

INORGANIC SOLIDS

- 101. Contaminated dirt
- 102. Fly ash
- 103. Baghouse or APCD dust
- 104. Bottom ash or slag
- 105. Spent carbon
- 106. Spent adsorbents (NOS)
- 107. Spent filter aids
- 108. Polymerized solids
- 109. Spent catalysts
- 110. Off-specification solid chemicals
- 111. Waste NaOH or KOH
- 112. Metal fines
- 113. Asbestos

INORGANIC SLUDGES

- 200. Inorganic sludge (NOS)
- 201. Metal hydroxide sludge
- 202. Wastewater treatment sludge
- 203. Biotreatment sludge
- 204. Cooling tower sludge
- 205. Lagoon/pond sludge
- 206. Filter cakes
- 207. APCD sludge
- 208. Sludge from electroplating

INORGANIC FLUIDS

- 300. Aqueous solution (NOS)
- 301. Wastewater (NOS)
- 302. Process water
- 303. Wash/rinse water
- 304. Cooling tower blowdown
- 305. Lagoon/pond water
- 306. Incinerator scrubber waters
- 307. Caustic scrubber/petroleum refining
- 308. Waste acid
- 309. Waste caustic solutions
- 310. Concentrated chemical solutions
- 311. Waste acidic solution
- 312. Acid and base
- 313. Chromic acid waste

Physical Form Codes
(continued)

ORGANIC FLUIDS

- 400. Organic liquid (NOS)
- 401. Spent solvents
- 402. Light ends
- 403. Hydraulic oils
- 404. Cutting oils
- 405. Transfer oils
- 406. Waste oils (NOS)
- 407. Oil/water emulsion
- 408. Waste paint
- 409. Paint thinner
- 410. Off-specification liquids/solvents
- 411. Coatings (lacquer, varnish, epoxy)

ORGANIC SLUDGES/SOLIDS

- 500. Organic sludge (NOS)
- 501. Heavy ends
- 502. Still bottoms/residues
- 503. Tars
- 504. Oily sludge
- 505. Paint sludge
- 506. Tank bottoms
- 510. Solid organic chemicals

MISCELLANEOUS

- 000. Unknown/undescribed
- 601. Lab packs
- 602. Lab wastes
- 603. Liquids (NOS)
- 604. Resins (form unspecified)
- 605. Paint stripper
- 606. Sludge (NOS)
- 610. Empty containers
- 611. Gas
- 612. Organic waste (NOS)

ATTACHMENT 2

Mixed Waste Streams ("X" Waste Codes)

Mixed Waste Streams
("X" Waste Codes)

X001 = F001 F002
 X002 = F003 F005
 X003 = D001 F002 F003 F005
 X004 = F001 F003
 X005 = P029 P030 P099
 X006 = D006 D008
 X007 = F006 F019
 X008 = F003 F005 F017
 X009 = D002 D007
 X010 = F007 F008 F009
 X011 = D007 D008
 X012 = D002 D007 D008
 X013 = D001 F003 F005
 X014 = D001 D008
 X015 = D001 D002
 X016 = D001 F001 F002
 X017 = D002 D003 D008
 X018 = F002 F003 F005
 X019 = U159 U161 U220
 X020 = D001 D007 D008
 X021 = F003 F006 F008 F009 F010 F017
 K063 U239 P001
 X022 = F001 F002 F003 F005 F006 F007
 F008 F009 F010 F011 F017
 X023 = D005 D007 D008
 X024 = D007 F006
 X025 = D005 D006 D007 D008
 X026 = D004 D007
 X027 = D005 D007
 X028 = D001 D003
 X029 = P039 P094
 X030 = D015 D016 P044 P050 P066 P071
 P089 P094
 X031 = P071 P089 P094 U185
 X032 = P071 P094
 X033 = F001 F002 F003 F005
 X034 = D002 D003
 X035 = D006 D007 D008
 X036 = D007 D008 D010
 X037 = D004 D010
 X038 = F005 U159

X039 = D005 D006 D007 D008 D009
 X040 = D002 D007 K062 F007 F009
 X041 = D007 F007
 X042 = D003 F005
 X043 = D007 D009
 X044 = K094 K093
 X045 = D001 D006 D007
 X046 = D001 D009
 X047 = K048 K049 K051
 X048 = F003 F005 D001 D006 D007 D008
 X049 = D001 D002 D004 D006 D007
 X050 = D002 D004 D006 D007
 X051 = D006 D007
 X052 = D002 D008
 X053 = D009 D002
 X054 = D002 D004 D010
 X055 = D006 F006
 X056 = U044 U048
 X057 = U002 F003 D001
 X058 = F002 F003
 X059 = D004 D005 D006 D008 D010
 X060 = D004 D005 D008
 X061 = D002 U122
 X062 = D002 D004
 X063 = D008 D007 D005 D011 D006
 D009 D004 D010 D012 D003
 X064 = F002 F004
 X065 = U228 U239 U210 U220 U002
 X066 = K069 D008
 X067 = F002 F003 F005 F006 F007
 K050 K051 K052
 X068 = U221 U012
 X069 = D001 F001
 X070 = U002 U028 U069 U107 U108
 U159 U213 U220 F005
 X071 = D001 F005
 X072 = U188 U152 U052 U122
 X073 = U159 U220
 X074 = U210 U031
 X075 = D007 D010
 X076 = D002 D006 D007
 X077 = D001 F017
 X078 = F005 D004 D002 U044 U220
 X079 = U220 F003
 X080 = U147 U226

X081 = D001 D002 D003 D007
 X082 = U162 U113
 X083 = U220 U159 U239
 X084 = K019 K020
 X085 = K049 K051
 X086 = D005 D006 D007 D008 D009 D011
 X087 = K002 K003 K004 K005 K006 K007 K008
 D004 D005 D006 D007 D008 D009 D010
 X088 = F001 U226 U227 U228
 X089 = F005 U220 U559
 X090 = F003 U002 U117 U154 U161 U239
 X091 = K011 K013 K014
 X092 = D001 D011
 X093 = D002 D006 D007 D008
 X094 = U162 U220 U239
 X095 = F002 F005
 X096 = F003 F005 F006
 X097 = F007 F008 F009 F010 F011 F012
 X098 = U103 U144 U032 U123 U145
 X099 = F003 F005 K086
 X100 = F003 F005 U239 U220 U112
 U161 U159 U002 U019 U154
 X101 = K048 K049
 X102 = K050 K051
 X103 = F003 F005
 X104 = F001 F002 F003 F005
 X105 = U019 U220
 X106 = U044 U127 U130 U128 U210 U211
 X107 = K049 K050 K051 K052
 X108 = F001 & MIXED LUBE OILS (NOS)
 X109 = P044 P071 P089 P123 P239
 X110 = D001 D002 D003
 X111 = D002 D004 D006
 X112 = F003 F005 K078 K079
 X113 = F001 F005
 X114 = D005 D006 D008
 X115 = K048 K050 K051
 X116 = D006 D007 D008
 X117 = D005 D008
 X118 = K019 K030
 X119 = D001 K052 P043 U159 U145
 X120 = U112 U159
 X121 = U112 F003
 X122 = U002 U220 U236
 X123 = D001 D006 F002 F003 F005

X124 = U159 U102
 X125 = U154 U107
 X126 = D004 D006 D008 D009
 X127 = D001 F003
 X128 = K093 K094
 X129 = D001 D007
 X130 = D001 D005 D006 D007
 X131 = D005 D006 D007
 X132 = U054 U052 U101 U188
 X133 = P092 D005 D007 D008 D009
 X134 = U188 U122
 X135 = D008 D011
 X136 = D004 D008
 X137 = D002 D004 D007 D008
 X138 = D007 K062
 X139 = F001 F003 F005
 X140 = K078 K079
 X141 = K086 D001
 X142 = D006 D011
 X143 = D006 D008 D011
 X144 = D006 D007 D008 K061
 X145 = D004 D005
 X146 = D006 D008
 X147 = D008 K044
 X148 = D001 D002 F001 F002 F003 F005
 X149 = D005 D006 D007 D010
 X150 = F001 U226
 X151 = D002 D008 D009
 X152 = D001 D002 D003 U240 U223 U229
 X153 = D004 D007 D008
 X154 = F006 F007 F008 F009 K044 K046
 X155 = F006 F007 F008 F009 K044 K046 D008
 X156 = K044 K046
 X157 = F007 F008 F009
 X158 = D001 D004 K031
 X159 = D001 P030
 X160 = D004 P120
 X161 = F002 U210 U211
 X162 = P012 P120
 X163 = D002 D007
 X164 = D001 D003 D004
 X165 = K049 K050 K051
 X166 = K048 K049 K050 K051
 X167 = D005 D007 D008 D009 D010
 X168 = F005 D001 P005 U220

X169 = U154 F005 D003
 X170 = U154 U002
 X171 = U002 U220
 X172 = P104 P106
 X173 = D002 D007 F002 F003 F004 U188
 X174 = K001 U051
 X175 = D001 D003 D005 D006 D007 D008 D009
 F003 F005 K078 K081
 X176 = D001 D006 D007 D008 D009
 X177 = D001 U002
 X178 = F002 D002
 X179 = F002 F003 F005
 X180 = K011 K013
 X181 = U002 U188
 X182 = U008 U112 U113 P003
 X183 = U197 U008 U113
 X184 = D002 U134
 X185 = F003 D001 D007 D008
 X186 = F003 D001 D002
 X187 = D001 D003
 X188 = F007 F009
 X189 = D001 D002 D003
 X190 = F006 F008 F009
 X191 = D006 D007 D008 D011
 X192 = D002 D003 K062
 X193 = D006 D008 F006
 X194 = D006 D008 F001
 Y001 = LAB WASTES
 Y002 = UNDIFFERENTIATED OTHER
 (NOT LAB OR NOT KNOWN TO BE LAB)

ATTACHMENT 3
TSD Management Codes

RIA MAIL SURVEY CODING SYSTEM
- TSD General Questionnaire

Data field	Description of question
Total volume handled	For the ten hazardous wastes handled in largest volume, what was the total quantity for each waste that was <u>handled</u> (gal/yr)?
Storage volume	What was the total quantity <u>stored</u> ?
Storage method	What was the <u>storage method</u> ? = 1. tank 2. container 3. surface impoundment 4. waste piles 5. other (specify) 6. 1/2 (combination of) 7. 1/3 8. 1/2/4 9. 2/4 10. 1/2/3 11. 2/3 12. 2/3/4 13. 3 + sumps 14. 1/5 15. 3/4 16. 1/4 17. 1/3/4
Treatment volume	What was the total quantity <u>treated</u> ?

RIA MAIL SURVEY CODING SYSTEM
- TSD General Questionnaire
(continued)

Data field	Description of question
Treatment method	What was the <u>treatment method</u>? = 1. tank 2. surface impoundment 3. incineration 4. other (specify) 5. 1/2 (combination of) 6. 1/4 7. 2/4 8. 1/3 9. 3/4 10. 1/2/3 11. 1/2/4 12. 2/3
Disposal volume	What was the total quantity <u>disposed</u>?
Disposal method	What was the <u>disposal method</u>? = 1. injection well 2. landfill 3. surface impoundment 4. land application 5. other (specify) 6. 3/4 (combination of) 7. 2/3 8. 1/3 9. 1/4 10. 2/4 11. 1/2

APPENDIX E

Treatment Capacity Analyses

Attachment 1: Analysis of Required and Available Treatment Capacity for K061 Wastes

Attachment 2: Commercial Capacity for Burning Hazardous Organic Wastes in Industrial Kilns

ATTACHMENT 1:

Analysis of Required and Available
Treatment Capacity for K061 Wastes

K061 waste is the emission control dust/sludge from the primary production of steel in electric furnaces. This waste is mainly comprised of iron, volatile metals (e.g., zinc, lead, and cadmium), and inorganics removed from off gases by baghouse filters, venturi scrubbers, or electrostatic precipitators. K061 waste is listed in 40 CFR Part 261.32 as a toxic waste because of the presence of lead, cadmium, and hexavalent chromium (Cr^{+6}).

It is estimated that 94.5 million gallons of K061 waste is land disposed annually and will require alternative treatment/recovery capacity because of the land disposal restrictions. This estimate is based on data obtained from the Regulatory Impact Analysis (RIA) Mail Survey performed in 1981.

An investigation was conducted to identify potential BDAT for K061 waste. The appropriate technology was determined to be high temperature metals recovery. This process involves the separation of metals from the K061 waste. Currently, only two companies, Horsehead Resource Development Company of Palmerton, Pennsylvania, and INMETCO Inc. of Ellwood City, Pennsylvania, are using high temperature metals recovery to handle K061 waste.

Horsehead Resource Development Company uses the Waelz Kiln process for handling K061 waste at its Palmerton facility (Refs. 1 and 2). This process is used to recover volatile metals from the waste through high temperature reduction, metal volatilization, and subsequent condensation and collection. To achieve this recovery, heat is supplied in a rotary

kiln to reduce metallic oxides to their metallic form. Once in their metallic form, the more volatile metals leave the kiln, are reoxidized as particulates, and are collected. The total feed used at this facility normally consists of 50 to 60 percent K061 waste, with the remainder made up of other zinc-bearing waste used to homogenize the feed. A feed with a zinc content of greater than 20 percent is preferred; however, the process can handle feed containing less than 10 percent zinc. The upgraded product from this process contains 55 percent zinc and is marketable as a feed for zinc smelting. The proposed BDAT treatment standard will be set on the residual (i.e., slag) from the kiln, which is currently land disposed.

Horsehead Resource Development Company's Palmerton facility has the capacity to handle 57.6 million gallons (240,000 tons x 240 gallons/ton^{*}) of K061 waste per year by high temperature metals recovery. The company is also retrofitting a facility in Calumet, Illinois, to handle approximately 19.2 million gallons (80,000 tons x 240 gallons/ton^{*}) of K061 waste per year via a similar process. According to a company representative, the Calumet facility should be completed and a temporary operating permit should be granted by the Illinois EPA sometime during January 1988. Process information is scheduled to be reviewed after 180 days of operation in order to determine whether a final permit

* Assumes the same density as water (8.34 pounds/gallon).

should be granted. The representative also indicated that, as long as the economics remain favorable, the company would consider converting another plant to provide additional capacity for 19.2 million gallons (80,000 tons x 240 gallons/ton^{*}) per year.^{**}

Horsehead Resource Development Company has also recently purchased a demonstration facility in Monaca, Pennsylvania (St. Joe Flame Reactor Demonstration Plant). The St. Joe facility was a demonstration plant used for developing a flame reactor treatment process to handle K061 waste. The process is a carbon-fueled, flash-smelting system that recovers zinc, lead, and cadmium as recyclable crude oxides. The flame reactor process has been in development since 1981. The maximum capacity for handling K061 waste at this facility is approximately 4.8 million gallons (20,000 tons x 240 gallons/ton^{*}) per year.

Currently, the St. Joe facility is only permitted to perform research and development (R&D). According to a representative of Horsehead Resource Development, the company will continue to use the St. Joe facility for R&D on K061 waste through 1988. Only a negligible percentage of the capacity is utilized in R&D. The representative indicated that the company intends to apply for a final operating permit for the St. Joe facility at some point during 1989.^{**}

* Assumes the same density as water (8.34 pounds/gallon).

** Information was obtained by James Berkes, Versar Inc., in telephone communications with Tom Unger of Horsehead Resource Development Inc. (215-826-2111), November 6 and December 1, 1987.

The INMETCO Inc. facility in Ellwood City, Pennsylvania, also uses high temperature metals recovery to treat K061 waste (Ref. 3). INMETCO has been involved in reclaiming and recycling secondary materials produced by the specialty steel and nickel-chromium alloy industry since the late 1970s. One of the major secondary materials processed by this company is K061 waste. In this process, a feed material is produced by blending various secondary materials with carbon (a reducing agent) in a screw conveyor system. This feed material is then conveyed to a pelletizing area where waste acid is added as a binding agent to form pellets. The pellets are then fed into a rotary hearth furnace where the hexavalent chromium (Cr^{+6}) and iron oxides in the pellets are reduced to trivalent chromium (Cr^{+3}) and metallic iron, respectively. This step in the process also preheats the pellets prior to their being transferred to an electric furnace. In the electric furnace, the pellets undergo final reduction into molten metal and slag. The proposed BDAT treatment standard will be set on the slag. The molten metal is poured into molds to form a remelt alloy. The remelt alloy is sold back to steel industry customers to be used as a raw material for the production of specialty steel products.

Gases produced by the rotary hearth furnace are collected and conveyed to a wet scrubber system for cleaning. Wastewater from the scrubber system is then transferred and treated at a wastewater treatment facility. A filter cake produced in the wastewater treatment process is taken by an outside contractor for reclamation of zinc and lead.

Gases from the electric furnace are routed to a baghouse where particulate matter is removed. The dust collected in the baghouse is transported to an outside contractor for reclamation of zinc and lead.

The INMETCO facility has the capacity to treat 4.8 million gallons (20,000 tons x 240 gallons/ton^{*}) of K061 waste per year by high temperature metals recovery.

The commercial capacity available to treat K061 waste is 62.4 million gallons per year. Horsehead Resource Development's Calumet facility is currently being retrofitted to handle approximately 19.2 million gallons per year. Although this facility is expected to become operational in January 1988, this capacity is not considered to be available at present because a final operating permit has not been granted by the Illinois EPA. The capacity at the recently acquired St. Joe facility is also considered to be unavailable because the facility does not possess a final operating permit.

Although Horsehead Resource Development has no immediate plans to convert another facility to handle K061 waste, the company has indicated that it may be interested in converting another facility to handle K061 waste in the future. The representative indicated that based on the time

* Assumes the same density as water (8.34 pounds/gallon).

needed to convert the Calumet facility, any future conversion would take from 12 to 18 months after a plant had been selected for conversion^{**}.

In January 1986, a report was submitted to the EPA Office of Solid Waste on the time required for siting, permitting, and constructing hazardous waste treatment facilities (Ref. 4). In this report, several critical activities were used to define the total time required to complete a project. These activities constituted what was called the critical path. The Critical Path Method (CPM) was employed to determine which activities should be considered. This method required the determination of (1) which activities must be completed before other activities can begin, (2) which activities may run concurrently with other activities, and (3) which path is the limiting or critical path.

The critical path for waste treatment units was found to contain six major activities. They are as follows:

- Conceptual planning and design;
- Detailed design/permit application preparation;
- Permit approval;
- Bid solicitation and evaluation;
- Construction; and
- Start-up.

^{**} Information was obtained by James Berkes of Versar Inc., in telephone communications with Tom Unger of Horsehead Resource Development Inc. (215-826-2111), November 6 and December 1, 1987.

Time estimates were developed for large and small facilities for 23 types of treatment units ranging from biological to thermal treatment. The treatment unit in the report that would be the most applicable to high temperature metals recovery of K061 waste was determined to be a small rotary kiln incineration unit. Because high temperature metals recovery is exempt from RCRA permitting requirements, however, the time required for permit preparation and approval was not considered. The time estimates given for completion of a small rotary kiln incineration unit (excluding permitting) are as follows:

Planning	2 months
Engineering design	6-8 months
Bid solicitation/evaluation	2-3 months
Construction	10-12 months
Start-up	2-3 months
Total range	22-28 months
Expected average time	25 months.

For today's proposed rule, the Agency has determined that the currently available commercial treatment capacity for K061 waste is only 62.4 million gallons per year. Assuming that Horsehead Resource Development's Calumet facility receives a final operating permit (which appears to be by July 1988 at the earliest), the maximum total commercial capacity prior to promulgation of the regulations would be approximately 81.6 million gallons per year. This capacity would still be inadequate for the 94.5 million gallons per year of K061 waste that would require treatment. Furthermore, the Agency does not have any data on the amount of onsite treatment capacity for K061 wastes. Therefore, based on this

information and the information available on the time required for completion of new hazardous waste treatment units, it is recommended that a 2-year national capacity variance be granted for this waste.

REFERENCES

1. USEPA. -1988. Horsehead Resource Development Co., Inc., Palmerton, Pennsylvania for K061. Draft Report prepared for Office of Solid Waste. Washington, D.C.: U.S. Environmental Protection Agency.
2. Baker/TSA. 1986. Study to evaluate impact of EAF dust land disposal on human health and the environment. Prepared for American Iron and Steel Institute. Washington, D.C.
3. International Metals Reclamation Company, Inc. (INMETCO). 1987. Comments on the land disposal restrictions and California List constituents. Docket No. F-87-LDR6-FFFFF. October 1987.
4. Jacobs. 1986. Time requirements for the siting, permitting, and construction of new hazardous waste treatment facilities. Final Report prepared for Office of Solid Waste. Washington, D.C.: U.S. Environmental Protection Agency.

ATTACHMENT 2:

Commercial Capacity for Burning
Hazardous Organic Wastes in
Industrial Kilns

FINAL REPORT

Commercial Capacity for Burning Hazardous
Organic Wastes in Industrial Kilns

Submitted to:

Jo-Ann Bassi
Waste Treatment Branch
Office of Solid Waste
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Prepared by:

Versar, Inc.
6850 Versar Center
Springfield, VA 22151

EPA Contract No. 68-01-7053
Work Assignment 86

November 1987

COMMERCIAL CAPACITY FOR BURNING HAZARDOUS
ORGANIC WASTES IN INDUSTRIAL KILNS

The purpose of this report is to determine the current and future capacity of commercial industrial kilns used to burn hazardous organic wastes¹ via fuel substitution. In preparing this report, phone inquiries were made to seven companies operating 21 industrial kilns (at 13 facilities) - 18 cement kilns and 3 lime kilns (see attached table). Attempts to contact two other firms were unsuccessful.

These inquiries indicated that hazardous wastes (liquids or liquids and sludges) were burned in 14 cement kilns for a total current utilization of about 107 million gallons per year. Their total current capacity to burn these wastes, however, is 144 million gallons per year. Hence, their current excess available capacity is 37 million gallons per year.² These facilities further estimate that their total capacity in 1987 or 1988 will be 209 million gallons per year. Consequently, future available capacity at these facilities should be 102 million gallons per year. For liquids and sludges, there was unanimous agreement among the individuals contacted that there should be ample future capacity to burn

¹ Of the facilities that responded to the specific question of what types of hazardous wastes are accepted for fuel substitution, most responded that they accept spent solvents and other halogenated and nonhalogenated organic wastes; none of the facilities accept dioxin contaminated wastes (see attached table).

² To convert to tons, use the following equation (based on the standard conversion using density of water):

$$37 \text{ Mgal/yr} \div 240 \text{ gallon/ton} = 154.000 \text{ tons.}$$

hazardous organic wastes. Moreover, they indicated they would welcome the business since they are now paid for accepting hazardous waste fuels, which typically provide 25 to 100 percent of their Btu requirements. (The normal fuel used is pulverized coal, which must be paid for by the facilities.)

The primary factor that may limit the ability of these kilns to accept additional hazardous organic wastes is the need to obtain the required permits (air permits, RCRA storage permits, or State-administered hazardous waste management permits). In addition, the halogen content of the waste could affect product quality if it exceeds about 10 percent chlorine. (Hydrogen chloride that is liberated by burning halogenated organic compounds (HOCs) appears to be absorbed by the alkaline kiln contents rather than emitted to the atmosphere.)

For solids capabilities, two of the individuals contacted are currently experimenting with feeding solid organic wastes, including contaminated soil. One of those contacted indicated that up to about 2 percent of the feed to the kiln could be contaminated soil, but believed that the quantity of soil would not adversely affect cement product quality.

Although this survey could not be considered comprehensive, industrial kilns appear to have adequate capacity and the technological capability to burn these wastes. Their capacity would be limited only by administrative and bureaucratic permitting requirements.

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Commercial Capacity for Burning Hazardous Wastes in Industrial Kilns (continued)

Name	Do they burn toxic	Type of kiln	Number of kilns	Types of organic wastes burned	Industrial kiln capacity ^b (million gallons/year)			Does the facility accept:			RCRA ⁷ status
					Actual fuel usage in 1986	1987 or 1988 future capacity	Waste acceptance criteria	F001-5 solvent wastes (Yes/No)	1020, 21, 23, 26 28 dioxin contaminated wastes (Yes/No)		
Ash Grove Forman, AK (Cadence)	Yes	Cement kiln	2	Liquids primarily and some sludge ²	40	40	Varies, but about: <3 12% Cl;	NR	NR		
Ash Grove Louisville, MS (Cadence)	Yes	Cement kiln	2 ⁴	Liquids primarily and some sludge ²	6	19	Varies, but about: <3-12% Cl; >6,000 Btu/lb	NR	NR		
Ohio Lime Millersville, OH	Plan to	Lime kiln	2	Liquids	0	0	50 ppm PCBs	Yes	No		Storage only
Ohio Lime Woodville, OH	No	Lime kiln	1	Misc	NA	NA	NA	Yes	No		NA
Copley Logansport, IN	Yes	Cement kiln	2	Liquids primarily and some sludge	0	0	<40 ppm PCBs; <10% Halogens; >8,000 Btu/lb; <30% solids	Yes	No		Applying for State RCRA permit
Dundee Cement Clarksville, MO	Yes	Cement kiln	1	Liquids primarily and some sludge	1	1	PCBs: <50 ppm OSMA carcinogens excl. level; <300 centipoise viscosity	Yes	No		State RCRA Part A
Total			21		107	144	209				

NA - Not applicable
NR - No response

- 1 Only two are permitted
- 2 Might be able to burn solids and contaminated soils, eventually
- 3 Investigating solids burning
- 4 Only one is permitted
- 5 Information from SysTech
- 6 In most cases, the quantities were reported in gallons. Gallons can be converted to tons (using the standard conversion based on the density of water, 8.34 lb/gal) by dividing by 240. Data are for total hazardous wastes burned, not just the hazardous component of those wastes.
- 7 All facilities currently burning hazardous wastes have RCRA storage permits.
- 8 Typically permitted for air emissions, occasionally for burning hazardous waste. All have RCRA storage permits.
- 9 Accepts 1001, 2, 3 and 5, but not 1004